

MacWEEK

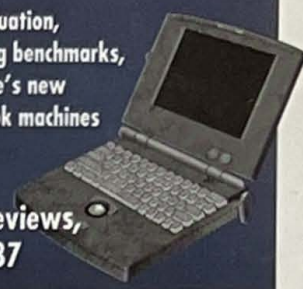
01.06.92 Volume 6 Number 1

THE NEWSWEEKLY FOR MACINTOSH MANAGERS

PowerBook 100 and 140

An evaluation,
including benchmarks,
of Apple's new
notebook machines

See Reviews,
Page 37



Microsoft ships final draft of pumped-up Word 5.0

Users laud features, knock upgrade costs

By Jon Swartz

Redmond, Wash. — The word among users is that Word 5.0 was worth the wait.

The first major upgrade in almost three years to the \$495 program that dominates the Mac word processing market began reaching users last week.

Beta testers lauded the new version's Find File tool, which lets users search for files by a variety of criteria, including text within them; its integrated grammar checker; an icon ribbon, similar to the one in Excel 3.0, which provides quick access to more formatting options; the Print Merge Helper, which provides step-by-step prompts to help set up mail merges; and drag-and-drop text, a feature that lets users move text within a document with just the mouse.

The new version makes Word the first major Mac word processor to implement System 7's publish and subscribe features. It also supports TrueType and balloon help.

"It has a ways to go, but, overall, it's a lot more refined," said Joe

Nagy, chief of the facilities engineering group at the United States Mint in Denver. "I especially like (the ability) to add shading and borders to sections of text."

"It's a major step up," said Scott Cory, a computer specialist at the Peace Corps in Washington, D.C. "The document-find facility alone makes it much easier to search for file names and text. We don't need On Location or GOfar to chase down information."

Bob Greenblatt, president of B & L Associates Inc., an Excel developer

See Word 5.0, Page 100

Microsoft Word (above) and Aldus Persuasion (right) weren't the only major Mac products updated recently. See DeltaGraph Professional (Page 3), OmniPage Professional (Page 3), SuperCard (Page 6), On Cue II (Page 6), Aldus PageMaker (Page 18) and FreeHand (Page 20).

Apple to revise Modem Tool after criticism

By Margie Wylie

Cupertino, Calif. — Faced with complaints that it has left users and developers alike in the lurch with half-baked support for the Macintosh Communications Toolbox, Apple soon will ship a revised modem tool that supports high-speed modems.

The company is expected to begin distributing a beta version of an updated Apple Modem Tool to large QuickMail 2.5 installations this month, according to sources. The CE Software Inc. mail package is among the programs most affected by the old modem tool's lack of high-speed support (see MacWEEK, Dec. 17, 1991).

The Apple Modem Tool is one of several tools that provide communications capabilities in the framework of the Comm Toolbox, a system extension that was designed to free application developers from writing underlying communications code. Although the Toolbox itself

See Toolbox, Page 98

Q&A offers integrated answers

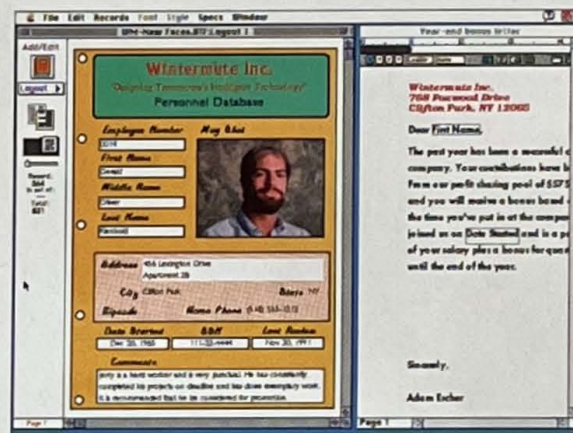
Symantec bringing DOS data to Mac

By Andrew Gore

Cupertino, Calif. — Doing mail merges on the Macintosh will soon be as simple as clicking an icon.

The Mac version of Q&A, Symantec Corp.'s flat-file database with an integrated word processor, is expected to debut this spring, after more than three years of development. Q&A 4.0, the latest incarnation of the 6-year-old program, is one of the top-selling DOS databases.

One of the key features of the Mac version is interoperability with Q&A for DOS. Networked users on both platforms will be able to access and modify Q&A databases simulta-



Q&A Macintosh, the Mac version of Symantec's combination database and word processor, will let Mac and DOS users access the same database files simultaneously on a network.

neously, according to sources. Although graphics and fonts that can't be displayed in DOS can't be part of a shared database, users will be able to create sophisticated layouts in Q&A Mac and then execute

mail merges with data from a DOS Q&A database. Q&A Write documents cannot be shared.

Other key features include:

► **Intelligent Assistant.** Carried over from the DOS version, Intelligent Assistant is a feature that will let Q&A Mac users launch complex operations with plain-English instructions; users need only enter a line such as "produce a report showing First Name and Last Name from the records where Last Review is less than 7-01-91" to get a list of all employees who haven't had a salary review in the previous six months.

► **Flat file.** Q&A Mac's database component is expected to be functionally similar to Claris Corp.'s FileMaker Pro. It will handle a variety of field types, including date, money, picture, text and paragraph. It will be able to include color graphics, sources said, and can be formatted with a wide variety of fonts.

See Q&A, Page 99

Aldus launches upgrade blitz

By Carolyn Said

San Francisco — By hook or by crook, Aldus Corp. hopes to persuade Mac users to look its way at Macworld Expo here next week.

The company has just shipped a deluge of Macintosh upgrades: PageMaker, FreeHand, SuperCard and Persuasion, as well as a raft of updates to Windows products (FreeHand, Persuasion, PhotoStyler and PageMaker Database Edition).

Persuasion 2.1, now enlivened with support for QuickTime

movies, also adds cross-platform compatibility with presentations created in the Windows version. The Persuasion Player, distributed free with both versions, will let Macintosh and IBM PC and compatible presenters play slide shows created in either the Mac or Windows version.

Users now can cut, copy and paste individual slides or groups of slides between presentations. The new release supports publish and subscribe, core Apple events,

See Persuasion, Page 100

Coming-out party for 16-inch screens

Apple, third parties ready expo rollouts

By Neil McManus

San Francisco — When Apple introduces its Macintosh 16" Color Display at Macworld Expo here next week, it will be joined by several companies unveiling products for what could become the new standard screen size.

"Within the next year-and-a-half, 16-inch monitors are going to replace 13-inch as the standard Macintosh display size," said Pieter Hartsook, editor of The Hartsook

Letter and Market Research Report in Alameda, Calif.

"It makes sense for other companies to ride the Apple marketing wave for 16-inch displays," said Joan-Carol Brigham, an industry analyst at International Data Corp., a market research company in Framingham, Mass.

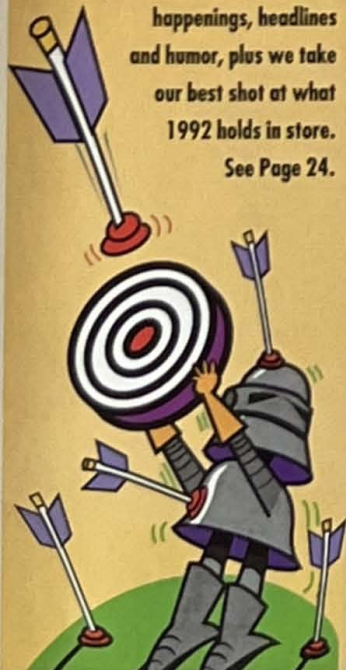
A long roster of companies reportedly will ride the 16-inch display wave with product introductions at Macworld Expo.

► **Apple** will unveil its \$1,699 Macintosh 16" Color Display, a Trinitron monitor, sources said (see MacWEEK, Nov. 5, 1991).

See 16-inch, Page 98

Year in review...

A look back at the past year's happenings, headlines and humor, plus we take our best shot at what 1992 holds in store. See Page 24.



THE HOTTEST NETWORK FAMILY IS NOT THE SIMPSONS

The new GraceLAN™ Professional Series from TechWorks™ is the first family of network management software designed specifically for professional use on today's increasingly complex networks. Each product focuses on a different set of network tasks and performs them quickly

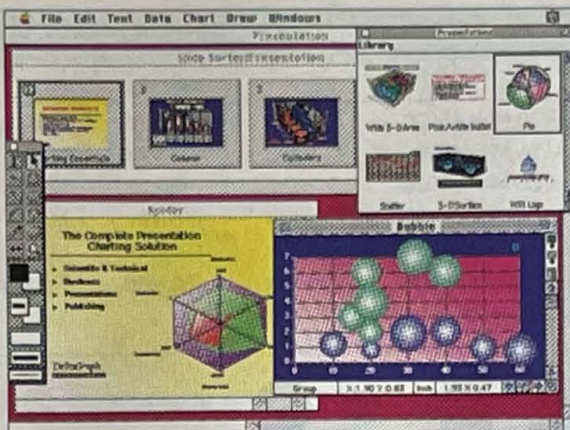


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DeltaGraph Professional features new chart types, such as the spider and bubble charts pictured; a Slide Sorter feature for creating stand-alone presentations; and libraries for custom templates, text and graphics.



DeltaGraph Pro plot thickens; adds chart types, libraries

By Matthew Rothenberg

Monterey, Calif. — DeltaPoint Inc. has charted a new course for DeltaGraph, shipping a high-end, System 7-savvy version of the presentation and charting software.

DeltaGraph Professional adds several features to those of the previous version, DeltaGraph 1.5, including:

► **New chart types**, such as bullet; organizational time-line; spider; bubble; multiple pie; ternary; and x,y,z-coordinate 3-D surface plots.

► **Custom chart and graphics libraries**, where users can store customized templates, text and graphical elements created in DeltaGraph or imported from other applications. These elements can be dragged to a new chart from floating windows.

► **A Slide Show option** for creating custom presentations with a variety of transitional effects, which users can save as stand-alone documents.

► **Enhanced color controls** that support CMYK (cyan, magenta, yellow, black) output and allow users to create color blends.

The new software supports core Apple events, publish and subscribe, 32-bit addressing, and balloon help.

DeltaGraph Professional is "a good, good product. It's well thought out and follows a very logical pattern," said beta-tester M. John Plodinec, senior advisory scientist with Savannah River Laboratory of Aiken, S.C.

"Importing and exporting are a major advance over Version 1.5," Plodinec said. "You can stuff things into libraries for later usage. The ability to do ternary diagrams and display data is a major step forward and something no one else has." Plodinec said he liked the simplicity of the new version's text and bullet-charting features.

"The expansion of the library and the addition of new types of charts are going to be the most significant additions for me," said James McAlister, senior staff engineer at the Arkansas Power & Light Co. in Little Rock.

"There seem to be some things I'll never use, but the things I need are all there," McAlister said. "Almost everything can be customized, so you're not just stuck with some standard default."

DeltaPoint originally announced it

would ship both DeltaGraph Professional and a lower-end upgrade to DeltaGraph 1.5 (see MacWEEK, May 21, 1991). But the company later decided to release only one new version, in part because a single program would be easier.

DeltaGraph Professional is \$295. Upgrades are free to users who bought the product after May 15, 1991; others can upgrade for \$69.95.

DeltaPoint Inc. is at 2 Harris Court, Suite B-1, Monterey, Calif. 93940. Phone (408) 648-4000; fax (408) 648-4020. □

OmniPage Pro: New OCR chapter

By Matthew Rothenberg

Los Gatos, Calif. — Caere Corp. last month began shipping a new version of OmniPage, its optical character recognition program.

OmniPage Professional represents a complete rewrite of the company's previous Mac OCR offering, OmniPage 3.0, Caere said. It includes a text editor that features spell checking, text verification and TrueType support, and displays multiple columns, text blocks and graphics. OmniPage Professional also contains an eight-bit gray-scale image editor and a scanner tool box with zoom control and click-and-drag text selection.

The program supports Apple events, publish and subscribe, 32-bit addressing and balloon help. It also adds support for Hewlett-Packard Co.'s AccuPage software, automatically optimizing text scanned on the HP ScanJet IIc.

"When I started scanning some really small, smudgy stuff, it was noticeably better than 3.0," said beta-tester Walter Stewart, a scientist at the National Institutes of Health in Bethesda, Md. "For the first time, it looks like a Macintosh program," Stewart said. Version 3.0 "had a superb engine and a sleazy interface; now [Caere has] taken the time to make it a real Mac product."

Caere is at 100 Cooper Court, Los Gatos, Calif. 95030. Phone (408) 395-7000; fax (408) 354-2743. □

News

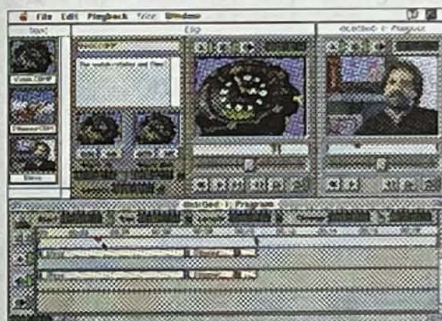
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Outbound expands notebook line

By Raines Cohen

Boulder, Colo. — Although the words "Macintosh" and "notebook" now conjure up images of Apple's PowerBooks in most users' minds, Outbound Systems Inc. is hoping potential buyers will think instead of its latest portable computers, to be introduced this week.

Two new models have been added to the high end of the Outbound Notebook System line: the Outbound 2030E and Outbound 2030S. The 6.25-pound Outbound Notebook System computers, introduced last summer (see MacWEEK, July 30, 1991), incorporate Mac ROMs obtained from used Macs. The company offers its Mac-compatible laptops in a wide range of configurations, which users can upgrade themselves, unlike Apple's PowerBooks. Pricing depends on configuration (see chart, right).

► **Outbound 2030E.** While the 2030E sports the same 25-MHz 68030 as Apple's PowerBook 170, it supports up to 14 Mbytes of application-addressable RAM, 6 Mbytes more than the 170 can support. Users can add a Motorola 68882 FPU (floating-point unit) to speed math operations, as well as create a non-volatile RAM disk as large as 50 Mbytes. Virtual memory is not supported.

► **Outbound 2030S.** Running at 33 MHz, the 68030-based Outbound 2030S supports up to 14 Mbytes of application RAM, a 50-Mbyte RAM disk and optional FPU. It comes with Virtual, software from Connectix Corp. that lets the 2030S make use of virtual memory. The notebook does not support System 7's built-in virtual memory.

Like Outbound's other models, the new sys-

tems let users swap CPUs as well as hard disks (40-, 80- and 120-Mbyte drives are available). A 1.4-Mbyte SuperDrive-compatible floppy drive is built in. Both include software for mounting DOS-formatted floppies in the Finder.

Outbound Systems Inc. is at 4840 Pearl E. Circle, Boulder, Colo. 80301. Phone (303) 786-9200 or (800) 444-4607; fax (303) 786-8611. □

Outbounds vs. PowerBooks

Product	CPU	RAM	RAM Disk	FPU	Price
Outbound 2000	20-MHz 68000	2-4 MBs	0-12 MBs	None	\$2,699
PowerBook 100	16-MHz 68000	2-8 MBs	0-6 MBs	None	\$2,998
Outbound 2030E	25-MHz 68030	2-14 MBs	0-50 MBs	Optional	\$3,299
PowerBook 140	16-MHz 68030	2-8 MBs	0-6 MBs	None	\$3,499
Outbound 2030S	33-MHz 68030	4-8 MBs	0-50 MBs	Optional	\$3,899
PowerBook 170	25-MHz 68030	4-8 MBs	0-6 MBs	Standard	\$4,599

Prices listed are for 4 Mbytes RAM/40-Mbyte hard disk.

Mail-order outlet to offer high-power Outbounds

Conroe, Texas — Although Outbound Systems Inc. sells its notebooks primarily through dealers, two new models offering ample memory and disk capacity soon will be available via mail order. Micro Business Solutions Inc. last week said it will sell two Outbound configurations under its own name, RealTech, through its direct-sales outlet, Hardware that Fits.

The RealTech Travler has a 25-MHz 68030 and 68882 FPU (floating-point unit). It will ship next month in two configurations: 8/80 for \$3,495 and 14/80 (plus 2 Mbytes of RAM disk) for \$3,995.

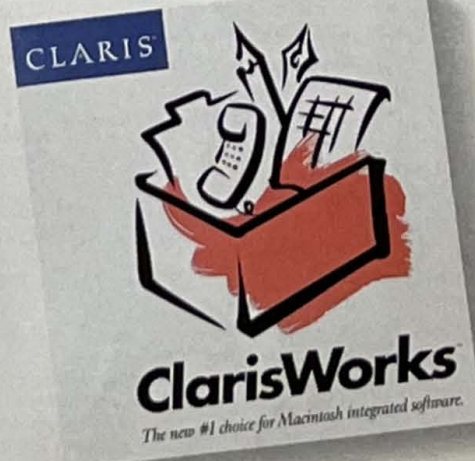
The systems will include SCSI cables and SCSI emulation software (so other Macs can mount the systems' disks on their desktops) and a copy of Pastel Development Corp.'s DayMaker personal information manager. The company said it will introduce 15- and 21-inch SCSI monitors for its systems next month.

Hardware that Fits is at 610 S. Frazier, Conroe, Texas 77301. Phone (409) 539-3959 or (800) 972-3018; fax (409) 539-4141. □

Expo news on CompuServe

San Francisco — Daily reports from the floor of next week's Macworld Expo will be available beginning Sunday, Jan. 12, in the ZiffNet/Mac service on CompuServe. Produced by a team led by MacWEEK Contributing Editor Ric Ford, the reports will be posted in both the MacWEEK forum and the Newsbeat area (type GO ZMC:MacWEEK or GO ZMC:Newsbeat). □

Anything else is just work.



Radius updates its display lineup

By Neil McManus

San Francisco — Radius Inc. will showcase a new 19-inch multifrequency color monitor and a 24-bit-color Pivot display system for the Quadras at Macworld Expo here next week.

In addition, the company will announce QuickTime-compatible versions of RadiusTV and ImpressIt.

► **PrecisionColor Display 19.** This new \$2,499 monitor, available now, lets users work in several views. With Radius' PrecisionColor eight- and 24-bit NuBus boards, users can switch between its 640-by-480-pixel and 1,024-by-768-pixel resolution modes. The monitor also works with several Apple and third-party display cards, as

well as the built-in video of the Quadras.

► **Radius Color Pivot Display.** New software for the "pivoting" 15-inch monitor, available this month, uses the Quadra's built-in video to display up to 16.7 million colors. Using Radius' Soft Pivot system extension, users can switch from portrait to landscape mode on the fly by flipping the \$1,549 monitor on its side.

► **RadiusTV.** The company's \$1,699 television tuner and video processor will soon support QuickTime, allowing it to work with all

video digitizers that are compatible with Apple's multimedia extension. This software upgrade, available free through on-line services this quarter, will let RadiusTV users capture video stills and sequences "live" with third-party digitizers.

► **ImpressIt.** An upgrade to Radius' \$159 still-image compression software, available this quarter, also will support QuickTime. The upgrade will let ImpressIt users automatically compress images when they are saved to disk. ImpressIt uses the JPEG (Joint Photographic Experts Group) standard to squeeze images in ratios of up to 100-to-1.

Radius Inc. is at 1710 Fortune Drive, San Jose, Calif. 95131. Phone (408) 434-1010; fax (408) 434-0770. □

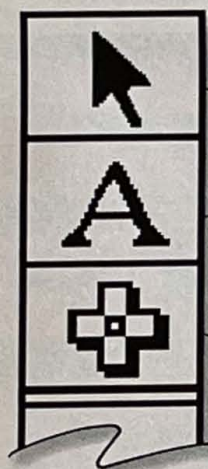
This is exactly the way you wanted Macintosh to be.

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ClarisWorks pulls out all the stops with a level of integration that's finally seamless.

justifiably call a genuine breakthrough.



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A level of integration

you could

It's an arrangement that, unlike anything else, produces more with far fewer moves.

Not only are ClarisWorks tools always within easy reach, they're amazingly easy to grasp and handle. It's like getting our greatest hits—the most popular features of our leading MacWrite®, MacDraw®, FileMaker®, and Resolve™ programs.

ClarisWorks also doesn't hog RAM. Remaining nimble and quick on Classics and LCs and keeping portables, portable.

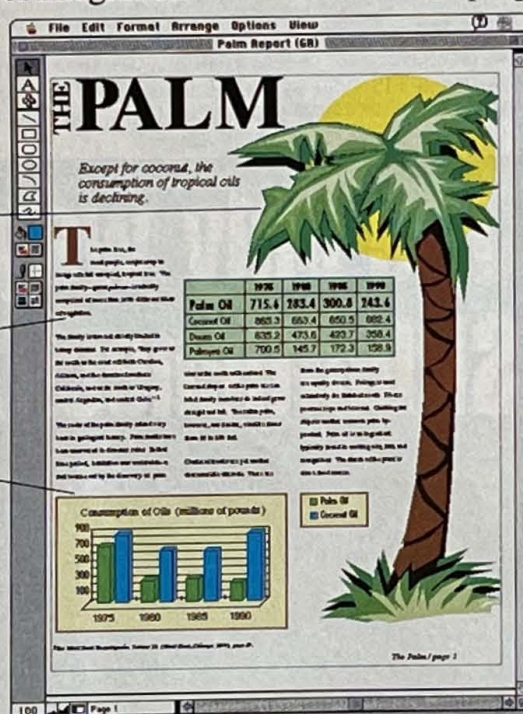


A truly robust integrated package for fully exercising your options in word processing, graphics, spreadsheets, charting, database, and communications.

It's even remarkably simple to share anything you create. With our XTND technology, ClarisWorks can read and write to dozens of popular file formats, like AppleWorks®, PICT, MacWrite II, and Microsoft Works.

Last, but certainly not least, ClarisWorks is a program you can build on.

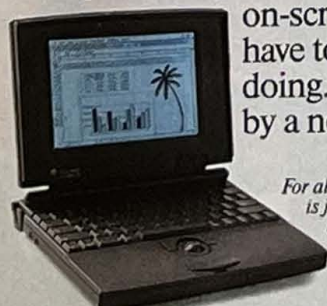
The menus and commands in each ClarisWorks environment mirror those in our best-selling specialized programs. Enabling you to move to any one of them without starting over at square one. Which makes ClarisWorks the only



Though we simply call it ClarisWorks™.

What ClarisWorks software does is combine word processing, graphics, spreadsheet, charting, database, and communications in one convenient package.

But here's the big difference: To add graphics, say, or a spreadsheet or a chart to a word processing document, simply click the on-screen tool. You never have to leave what you're doing. Or get side-tracked by a new window.



For all its power, ClarisWorks is just 580K. So it never weighs down a PowerBook.

integrated program with a true growth path.

So call to trade up from Microsoft Works for just a mere \$99.

Or check out ClarisWorks at your authorized Claris dealer. And get the only works that isn't.

CLARIS

Simply powerful software.™



For a cool, crisp \$99 you can trade up from Microsoft Works. Call 1-800-544-8554, ext. 58, to cash in.*

Apple puts 4 Mbytes in low-end Classic, LC

By Daniel Farber

Cupertino, Calif. — Apple this week will introduce new configurations of the Classic, Classic II and LC that come with 4 Mbytes of memory and a 40-Mbyte hard disk.

Currently low-end Macs with 40-Mbyte drives have only 2 Mbytes of RAM on board.

"We found that people running System 7 [with 2 Mbytes of RAM] were restricted to one application and a modest-size file," said Apple spokeswoman Lisa Byrne. "Adding 4-Mbyte models will let users take better advantage of System 7 features, such as extensions and multitasking."

The list-price differential for the extra 2 Mbytes of memory will be \$150.

The new Classic 4/40 configuration, according to sources, will list for \$1,649, compared with \$1,499 for the 2/40 version.

The 4/40 version of the 68030-based Classic II will be \$2,049, compared with \$1,899 for the 2/40 and \$2,399 for the 4/80 model. And the LC with 4 Mbytes of RAM and a 40-Mbyte drive will be \$2,649, compared with \$2,499 for 2/40 models. The new LC configuration includes a keyboard but no extra video RAM.

The 2/40 configurations of all three low-cost Macintoshes will remain available, Byrne said. □

MacVONK's HandiWorks aimed at PowerBooks

Narberth, Pa. — MacVONK•USA last month shipped HandiWorks, integrated software whose low memory usage makes it suitable for PowerBook users.

Announced at Comdex/Fall '91 (see MacWEEK, Oct. 29, 1991), the \$175 program combines a word processor, spreadsheet, drawing tools and page-layout capabilities. It comes with dictionaries for hyphenation and spelling in English and Spanish. It uses only 800 Kbytes when all applications and features are active, the company said.

HandiWorks' word processor and spreadsheet can read files saved in other formats via Claris Corp. XTND filters, a limited number of which ship with the program. Images can be imported and exported in Encapsulated PostScript, PICT, PICT2, TIFF and Paint formats.

MacVONK•USA is at 313 Iona Ave., Narberth, Pa. 19072. Phone (215) 660-0606; fax (215) 668-4360. □

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Silicon Beach launches 7-savvy SuperCard

By Raines Cohen

San Diego — SuperCard caught up to Claris Corp.'s HyperCard 2.1 with the release last month of a System 7-savvy version.

Silicon Beach Software Inc., a division of Seattle-based Aldus Corp., shipped Aldus SuperCard 1.6, an update to the multimedia authoring system, with new features to help developers.

SuperCard comes in two pieces: SuperEdit, a script editor, and SuperCard, a runtime environment. SuperEdit can translate SuperCard documents, called projects, into stand-alone applications that can be distributed royalty-free.

Although HyperCard 2.0 narrowed the gap between the environments by adding support for multiple windows, limited color and other enhancements, SuperCard is still the tool of choice among many multimedia developers, especially for full-color, multiwindow, graphical applications. It is used for presentations, database front ends, electronic publishing, and computer-based education and training.

Still priced at \$299, the new SuperCard features:

► **HyperCard 2.x import.** SuperEdit 1.6 can read in HyperCard

2.x stacks and convert HyperTalk 2.x scripts to its SuperTalk language.

To facilitate 2.0-stack conversion, the SuperTalk language now supports HyperCard-style group text and on-the-fly menu creation. SuperCard 1.6 does not support HyperCard 2.0's extended external command (XCMD) architecture, however, so new-format externals may need to be recompiled or partially rewritten to work under SuperCard. Most externals that work in HyperCard 1.x also work in SuperCard 1.6.

► **System 7 support.** The new version is 32-bit-clean. Stand-alone projects created with earlier versions need to be remade with 1.6 to become clean. The program now sports balloon help and supports TrueType fonts in any point size. In addition, it can run in multiple monitor bit depths, including 24-bit color.

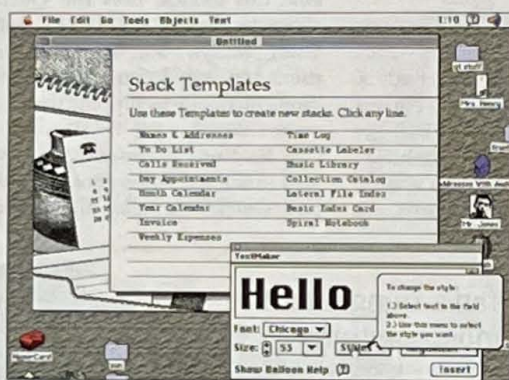
SuperCard 1.6 projects can send Apple events to other applications,

to control and communicate with them. SuperCard itself, like HyperCard 2.1, supports only two events, evaluate expression and do script.

► **On-line scripting help.** SuperCard 1.6's script editor will incorporate an interactive reference guide explaining the SuperTalk language.

Registered customers can upgrade to 1.6 for \$50; those who purchased Version 1.5 after June 26, 1991, can upgrade for free.

Silicon Beach Software Inc. is at 9770 Carroll Center Road, Suite J, San Diego, Calif. 92125. Phone (619) 695-6956; fax (619) 695-7902. □



SuperCard 1.6 can convert HyperCard 2.x stacks, such as the Stack Templates stack shown here, to SuperCard projects.

ICOM's On Cue II, released at last, offers file management, launching

By Henry Norr

Wheeling, Ill. — On Cue II has missed more than a few cues since it was first previewed in early 1990, but the new version of the popular launch utility from ICOM Simulations Inc. made its long-delayed debut on the Mac desktop last week.

While the original On Cue had only one purpose — letting users launch applications and documents from a pull-down menu — the new \$99.95 version fulfills a variety of file-management functions: It will compete not only with challengers in the launch-menu market, such as Connectix Corp.'s Hand-Off II, but also with a variety of other Mac utilities, including dialog-box enhancers such as Now Software Inc.'s Super-Boomerang and desk accessories such as CE Software Inc.'s DiskTop.

Key features include:

► **Enhanced launch menu.** Users can now add clutter-cutting hierarchical submenus, as well as single entries that launch multiple files, to the launch menu.

► **On Disk.** Via the Apple menu or four small icons added to Open and Save dialog boxes, On Cue II

offers immediate access to recently used files and folders; fast searching for missing files; and numerous file-management capabilities, including access to Finder comments and the ability to modify attributes. A Maximizer option replaces the standard dialog boxes with a substitute format offering more information and viewing options.

► **On Startup.** A separate extension manages other system extensions and control panels.

► **Special modules.** The program ships with several drop-in modules, including KeyLauncher, which lets users launch an application by typing its name; MatchMaker, which opens a substitute application if the program that created a document isn't available; and QuickFinder, which generates a launch list of all files of types specified by the user.

Upgrades are \$35 plus \$6 shipping, but free to users who purchased On Cue 1.3 after May 14, 1991.

ICOM Simulations Inc. is at 648 S. Wheeling Road, Wheeling, Ill. 60090. Phone (708) 520-4440; fax (708) 459-3418. □

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He goes on to explain one of the reasons EtherRoute was selected: "It has two LocalTalk ports, so we could purchase fewer routers than we had originally planned."

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After just a little over a year, the list of EtherRoute users reads like a who's who of Macintosh networking: U.S. West, Teledyne, DOD, Cornell University, Ameritech, Orange County, Rockwell International, NCAA, USGS, Kaiser Permanente, University of Texas, Northwestern University, Martin Marietta, DOC, Sony Japan, Fujitsu America, INS, University of Waterloo, Signetics, VA, Seagate, etc.

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Applied launches into '040 market

By Raines Cohen

Dallas — Applied Engineering, a division of AE Research Corp., last month announced a 25-MHz 68040 NuBus accelerator card. The company also released a 68030-based accelerator for the Mac LC.

► **TransWarp 040**, priced at \$3,099, includes eight on-board SIMM (single in-line

memory module) sockets so users can transfer RAM from the Mac's logic board. The sockets work with 256-Kbyte, 1-Mbyte, 4-Mbyte and 16-Mbyte 80-nanosecond dynamic RAM SIMMs, allowing up to 128 Mbytes. Users need to leave at least 1 Mbyte on the logic board for it to work.

The card supports NuBus block-mode

transfer for efficient cooperation with video and SCSI cards that also support block-mode transfer.

An included control panel lets users control the accelerator and disable it automatically whenever user-specified incompatible applications are run.

► **TransWarp LC**, a 68030-based coprocessor card, is available in 33-, 40- and 50-MHz versions, for \$1,499, \$1,990 and \$2,195, respectively. An included 32-Kbyte direct-map cache enhances the acceleration by moving frequently

used instructions to the card's fast memory. The card can accommodate optional Motorola 68882 math coprocessors in several speeds.

An included control panel lets users disable and enable the cache at will. The software incorporates '882 Express, a patch to the Standard Apple Numeric Environment (SANE) system software, which substantially speeds up some math-intensive applications.

AE Research Corp. is at 3210 Beltline, Dallas, Texas 75234. Phone (214) 241-6060 or (800) 554-6227; fax (214) 484-1365. □

Peter Norton Probably Won't Like This Ad



Radius extends range of Rocket, cuts price

By Raines Cohen

San Jose, Calif. — Radius Inc. is expected to fire off a barrage of Rocket-related announcements at next week's Macworld Expo, including a price cut on the 68040-based accelerator, a stripped-down version at an even lower price and a new software release.

► **Price cut.** Faced with competition from other accelerator makers and from Apple's 68040-based Quadras, Radius will cut the price of the standard Rocket for the second time in less than four months. Introduced last spring at \$3,495 and reduced by \$1,000 in October, the NuBus coprocessor will now be available for \$1,999.

► **Economy version.** A new \$1,499 version of the card, called the Rocket 25i, uses a 25-MHz 68LC040 processor, in contrast to the standard '040 in the original Rocket. The 'LC040 chip, recently released by Motorola Inc., delivers many of the benefits of the full '040, including dual caches, but lacks the FPU (floating-point unit) built into the standard chip.

Calculation-intensive programs, such as CAD and rendering applications, don't run as fast on the 'LC040 as on the standard 68040 used in the Quadras and other third-party '040-based accelerators. But many types of software, such as desktop publishing, graphic design, word processing and presentation packages, can benefit from the simple acceleration the Rocket 25i brings, the company said.

Both the original Rocket and the new card, expected to ship this month, carry a one-year warranty and come with RocketWare software.

► **Software upgrade.** RocketWare 1.3, a new version of the Rocket software, will be available from Radius for a nominal fee or on-line for free. The new release is compatible with MODE32, an extension developed by Connectix Corp. and now distributed free by Apple. MODE32 allows Mac II, IIx, and IIcx users with Rocket accelerators to address up to 128 Mbytes of RAM under System 7; previously, users of the older models were limited to 8 Mbytes of system memory.

The new software includes a pro-active installer, including a compatibility checker that scans the users' hard drives for software known to conflict with the '040 or its copyback cache mode. Radius is also giving the compatibility checker away so potential customers can determine what software upgrades would be necessary prior to purchasing a Rocket. RocketWare 1.3 also makes the Rocket compatible with early Mac IIs with revision B ROMs.

Unlike the Quadras, the Rocket can run System 6.0.7, not just 7.0.1, and when incompatible applications are run, it can switch to a 68030 cache mode, rather than totally disable the processor caches.

Radius Inc. is at 1710 Fortune Drive, San Jose, Calif. 95131. Phone (408) 434-1010; fax (408) 434-0127. □

Neither will the guys who make MacTools Deluxe. After all, the ordinary defraggers they bundle with other products just can't be expected to compete against the revolutionary, new ALSoft DiskExpress II—the only truly personalized disk optimizer which optimizes the way you use your Mac. Only ALSoft DiskExpress II has all the intelligence, safety, control and unbridled speed you need to make your Mac run its absolute fastest. Even if your Mac is brand new! Which should be something you like a lot—even if our competitors don't.

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YES	NO	YES
YES	NO	YES
YES	NO	NO
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Mass Micro HitchHikers take a ride on Mac back

Drives weigh 10 ounces, clip onto SCSI port

By Dartanyan L. Brown

Sunnyvale, Calif. — Mass Microsystems Inc., which last month introduced a series of 3.5-inch portable hard drives, last week followed up with a new line of even smaller external drives, based on 2.5-inch mechanisms.

Called the HitchHiker series, the pocket-size drives are available now, the company said. A 40-Mbyte model, based on a JVC mechanism, lists for \$749, while an 80-Mbyte model with a Quantum mechanism is \$999.

The HitchHikers, an improved version of the Clipper drives formerly marketed by the now-defunct Jasmine Technologies Inc., weigh only 10 ounces and measure 2.9 by 5.4 by 1.1 inches. The drives mount directly on the SCSI port of compact Macs and via a small SCSI extender on modular models; PowerBooks require an optional SCSI adapter cable.

Microcom adds Value Pak, updates recovery utilities

By Henry Horr

Durham, N.C. — Updated versions of two Microcom Inc. data-recovery utilities and a new multiprogram utility collection are slated to ship this week, just in time for Macworld Expo in San Francisco.

► **Complete Undelete 2.0.** The new version of Complete Undelete, a control panel that lets users recover accidentally deleted files without running a special application, adds System 7 compatibility and new networking, security and convenience features.

The program can now recover files across the network from a file server, with privileges intact. A new "erase file" button gives users the option of making confidential deleted files unrecoverable. Files can be restored to their original folder on the root directory.

Upgrades to the \$79.95 program are \$15. A 2-Pak is now available for \$119.95.

► **Microcom 911 Utilities 1.1.** A free upgrade to the company's \$149.95 disk-recovery program, Version 1.1 adds System 7 compatibility plus FileKrit, a defragmentation program.

Like Version 1.0, the new 911 package includes 1stAid Kit HFS, a disk- and file-recovery package; a 300-page troubleshooting guide; Complete Undelete 2.0; Microcom's Virex 3.51, an anti-virus application; and Sector Collector, a utility that locates bad sectors on a hard disk and keeps the system from writing data to them.

► **Microcom Value Pak (MVP).** The new package offers Microcom's full Mac utility line — carrying a total suggested retail list price of \$598 — for a list price of \$249.

Included in the collection are the 911 Utilities 1.1; Complete Undelete 2.0; Virex 3.51; Citadel with Shredder, an access-control and encryption package; and two single-user copies of Carbon Copy for the Mac, Microcom's local and remote screen-sharing and file transfer software.

Microcom Inc.'s Utilities Group is at P.O. Box 51489, Durham, N.C. 27717. Phone (919) 490-1277; fax (919) 490-6672. □

The HitchHiker 40 has an average access time of 25 milliseconds and a sustained data transfer rate of 1.25 Mbytes per second, while the 80-Mbyte model delivers access times of 16 milliseconds and a data transfer rate of 1.5 Mbytes per second, according to Mass Micro.

A 25-pin SCSI connector on the back of the

HitchHiker lets users attach other drives with a standard system cable. Power comes over a special cable that connects to the Apple Desktop Bus port and provides a pass-through for other ADB devices; for the Mac Plus, which has no ADB, a special adapter that gets power from the floppy-port drive is included.

The smaller version has an MTBF (mean

time between failure) rate of 130,000 hours and a non-operating shock rating of 70 G's; the 80-Mbyte model has an MTBF of 150,000 hours and a shock rating of 100 G's. According to the company, the HitchHiker's 32-Kbyte buffer supports a 1:1 interleave on any Macintosh.

The drives are covered by a one-year warranty and toll-free technical support.

Mass Microsystems Inc. is at 810 W. Maude Ave., Sunnyvale, Calif. 94086. Phone (408) 522-1200; fax (408) 733-5499. □

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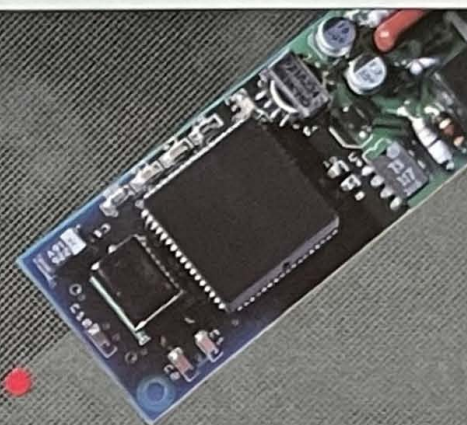
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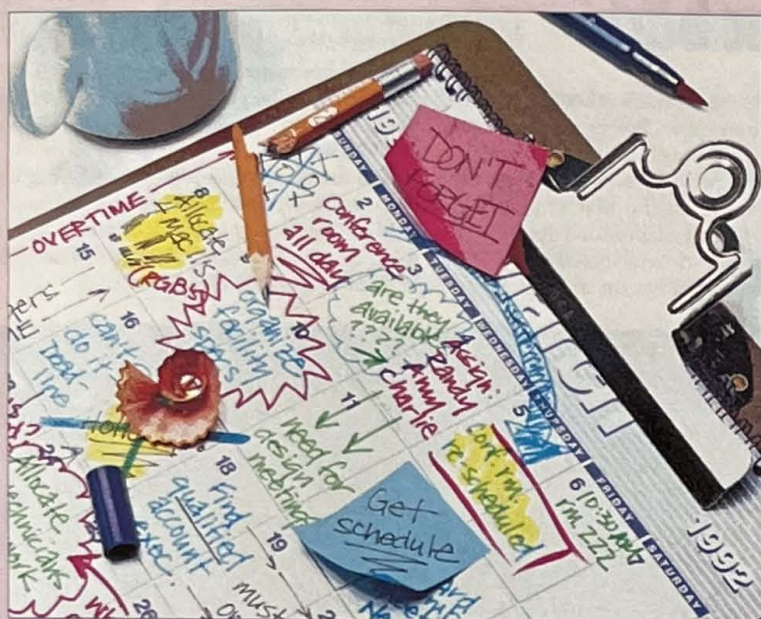
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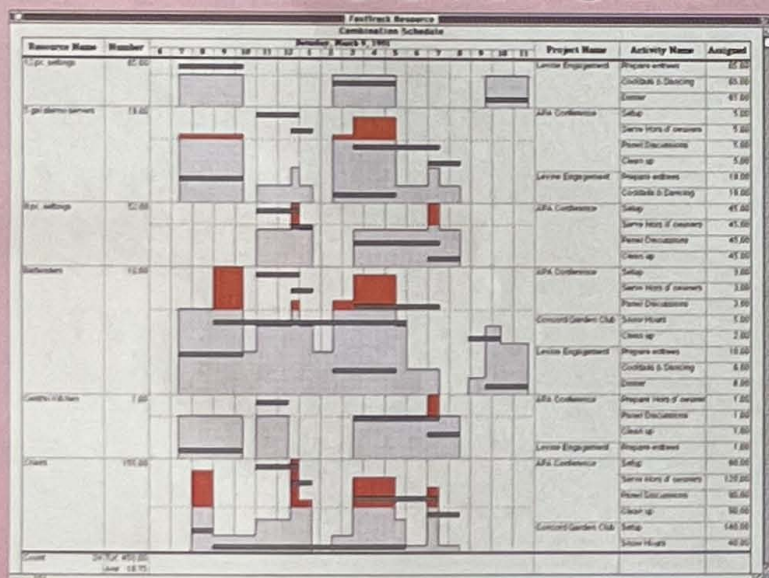


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DiskExpress II update gives users more control over optimization

By Henry Norr

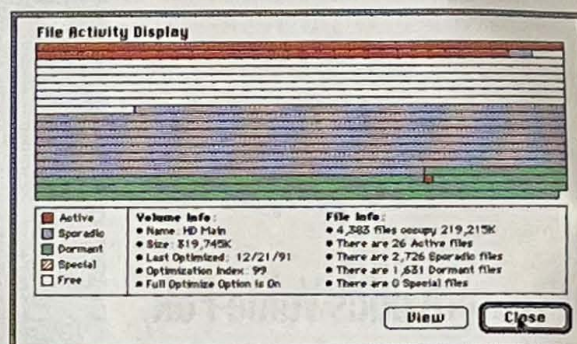
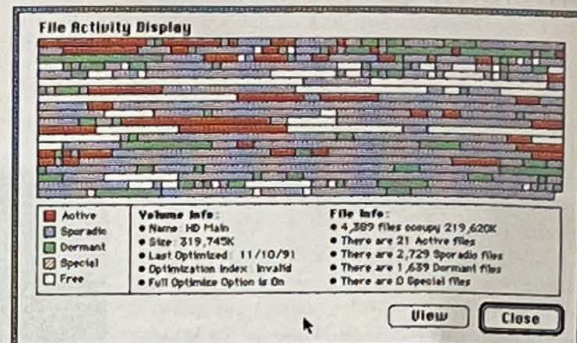
Spring, Texas — ALSoft Inc. last week delivered an upgrade for DiskExpress II, giving users a variety of new ways to control its disk-optimizing activity.

The latest incarnation of the original Mac optimizer, DiskExpress II Version 2.10, features a new, consolidated Options window in the control panel. There users can limit the times during which the program can begin optimizing — between 2:30 a.m. and 6 a.m., for example — or set a new Optimization Index at a desired level, so the program won't begin shuffling files until the disk reaches an unacceptable level of fragmentation.

The program improves performance not only by consolidating fragmented files, but also by placing the most frequently used files closest to the disk directory. In addition to the fragmentation map displayed by previous versions, Version 2.10 offers a map showing files color-coded by frequency of usage over a five-day period. A Quick Optimize button lets users direct the program to ignore inactive files and only reposition those in active use.

On PowerBooks and Portables, another new setting can prevent automatic optimization when the machine is running on battery power.

DiskExpress remains priced at \$89.95. Upgrades are \$18 plus \$4 shipping and han-



DiskExpress II's new usage map color-codes files by frequency of use over a five-day period. As shown here in before and after views, the program improves performance by placing frequently used files closest to the disk directory.

dling, but users who upgraded to Version 2.07 last fall received a coupon entitling them to a \$10 discount on the new upgrade.

ALSoft Inc. is at P.O. Box 927, Spring, Texas 77383. Phone (713) 353-4090 or (800) 257-6381; fax (713) 353-9868. □

ALSoft bundles utilities in \$129 package

Along with the new version of DiskExpress II, ALSoft Inc. last month announced plans to join the trend toward bundling multiple utilities into a single economy-priced package.

ALSoft Power Utilities, due later this month at \$129, will include DiskExpress II Version 2.10 plus a half-dozen other programs new and old. Other current ALSoft offerings that will be incorporated in the System 7-compatible collection include MasterJuggler 1.57, a set of utilities that simplify management of fonts, desk accessories, sounds and Fkeys; DiskCheck 1.10, a diagnostic utility that checks for directory damage and hardware malfunctions; and MultiDisk 1.27, a

disk-partitioning program. A new companion utility for MultiDisk is designed to recover data from partitions in case of a disk crash.

Also new in the Power Utilities collection are MenuExtend, an extension that provides hierarchical submenus for folders in System 7's Apple menu and lets users group folders at the top or bottom of submenus; DiskFlash, an extension that flashes an icon in the menu bar to indicate disk activity; and ScreenEclipse, a screen saver that works by automatically turning down the brightness, therefore consuming less memory and disk space than its splashier competitors. — By Henry Norr

Connections connects to Sharp Wizard

San Mateo, Calif. — Danny Goodman's Connections 2.0, the HyperCard-based personal information manager from Concentrix Technology Inc., this month will gain links to Sharp Electronics Corp.'s handheld Wizard personal organizer.

Heizer Software is selling a \$34.95 Import-Export software module that gives the \$199 Connections software hooks to the Wizard. Users also need a Mac-to-Wizard cable, available from Sharp for \$109.99, as part of its Organizer Link for Mac hardware/software package.

With the Import-Export module and cable, users can perform two-way transfers of calendar, telephone and note information between the Wizard and Connections on the Mac.

The Import-Export module also performs schedule reconciliation between information entered in the Wizard on the road and information in the Connections scheduler on a user's desktop Mac.

Heizer Software is at P.O. Box 232019, Pleasant Hill, Calif. 94523. Phone (510) 943-7667 or (800) 888-7667; fax (510) 943-6882. □

Macmillan publishes low-cost Pascal package

By Matthew Rothenberg

New York — The Macmillan Publishing Co. has released Metrowerks Pascal, a low-cost Pascal programming package.

Available now for \$79, Metrowerks Pascal was developed by Metrowerks Inc. of Moores, N.Y. It includes a text editor, a dynamic linker and an interactive debugger that allows developers to monitor the execution of their programs. The program also ships with a 575-page hard-cover guide that includes a Pascal programming tutorial; 100 sample Pascal programs on disk; and ResEdit, Apple's resource-editor application. Metrowerks Pascal includes on-line help with references to all compiler messages and to "Inside Macintosh," volumes 1 to 6; the help system also can be customized for the user's own libraries, according to Macmillan.

The new package costs significantly less than the two current leading Pascal development environments, Symantec Corp.'s THINK Pascal and Apple's MPW Object Pascal. THINK Pascal is \$249, while MPW Object Pascal is \$150 and requires the \$150 Macintosh Programmer's Workshop.

Metrowerks Pascal is compatible with TurboPascal from Borland International, so

users can take advantage of programs written with that compiler for both Macs and IBM PCs and compatibles, the company said. The application includes balloon help for System 7 users.

Macmillan said it is offering Metrowerks Pascal at an educational price of \$49 to students and instructors.

The Macmillan Publishing Co. is at 866 Third Ave., New York, N.Y. 10022. Phone (800) 257-5755. □

Atlantek charges up QuickDraw plotter

Wakefield, R.I. — Atlantek Inc. next month will ship its latest monochrome plotter capable of producing QuickDraw-generated graphics without reformatting.

Atlantek's \$14,500 Model 3600 can produce E-size drawings at up to 2 inches per second, the company said.

The Model 2400 D-size plotter, available now for \$12,500, offers 4-inch-per-second throughput. It can format and plot a D-size image in about 40 seconds, according to Atlantek.

When used with the MacPlot DMA Electrostatic card, a NuBus board with built-in Versatec port, both plotters accept and produce QuickDraw-created images.

The card, available for \$2,495 from Atlantek or from its developer, Microspot Inc., uses direct memory access to transfer data from the Mac to the plotter. The card, which comes with Microspot's MacPlot Chooser-selectable driver, also offers a plot-to-disk feature that saves plot data and parameters for reuse.

Atlantek Inc. is at 10 High St., Wakefield, R.I. 02879. Phone (401) 783-5700; fax (401) 783-9881. □

Essential Software sets Easy Alarms for scripting, Apple events, networking

By Henry Norr

Staatsburg, N.Y. — In last summer's original release of Easy Alarms, Essential Software Inc. aimed above all to make its calendaring and reminder program easy to use and inexpensive. In Version 1.5, due next week, the focus is power and flexibility.

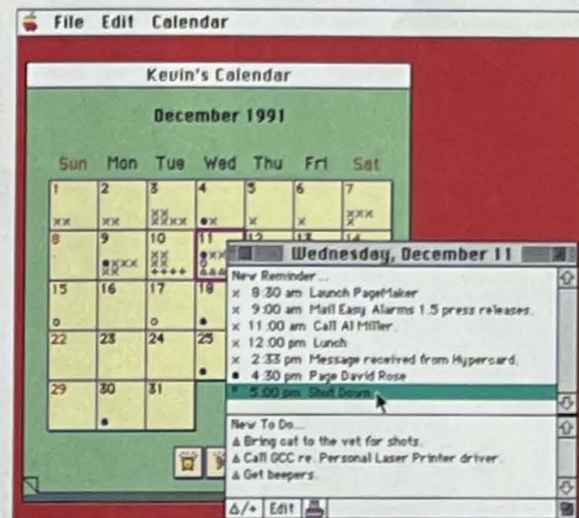
The new release will retain the original's \$59.95 price tag, yet incorporate a range of System 7-savvy features not yet matched by more costly competitors.

Key enhancements include:

► **Scripting.** A built-in point-and-click script editor will give users precise control over what Easy Alarms does when a reminder comes due. In addition to telling the program what sounds to play and what to display on screen, users can instruct it to execute a variety of special functions, including launching applications, typing text and sending Apple events to another program or machine.

► **Apple events.** Two custom events — New Reminder and Do Script — will let users control Easy Alarms from HyperCard and other Apple events-capable applications and scripting tools. The Easy Alarms software will also be able to send events instructing other programs to open a document, for instance, or to quit at a specified time; used with third-party macro utilities, Easy Alarms will also be able to launch more complex operations in receiving applications.

By sending an event to Notify!, a pager-connection program due soon from Ex Machina Inc., Easy Alarms will be able to send reminders



Essential Software's Easy Alarms 1.1 preserves the original's user interface but adds a To Do item category, a scripting language and Apple-events support.

to a specified user's alphanumeric pager.

► **Network support.** Previous versions of Easy Alarms have been able to post reminders to other users' calendars, but the new release goes further: Via System 7's file sharing, networked users can have full access to shared calendars on other machines. Other improvements in Version 1.5 include a new day-view window, a To Do list feature, expanded repeating-reminder options and import and export of text files.

Upgrades to Easy Alarms 1.5 will be free to customers who bought an earlier version after Oct. 12, 1991, and \$15 to others.

Essential Software Inc. is at 28 Mulford Ave., Staatsburg, N.Y. 12580. Phone and fax (914) 889-8365. □

PowerBook drives get new life from Microtech

By Henry Norr

East Haven, Conn. — Microtech International Inc. this month will begin offering buyers of its higher-capacity replacement hard drives for the Mac PowerBooks several ways to put the drives that came in their notebooks to good use.

The company is now shipping 40- and 80-Mbyte drives to replace 20- and 40-Mbyte mechanisms Apple builds into the notebooks (see MacWEEK, Dec. 3, 1991). The 40-Mbyte Roadrunner 40i is priced at \$549, while the 80-Mbyte Roadrunner 80i is \$779.

Buyers can choose among three options for the drives removed from their PowerBooks when the Roadrunners are installed:

► **Rebates.** Microtech offers cash rebates of \$25 or \$50, respectively, for Apple's 20- or 40-Mbyte PowerBook drives.

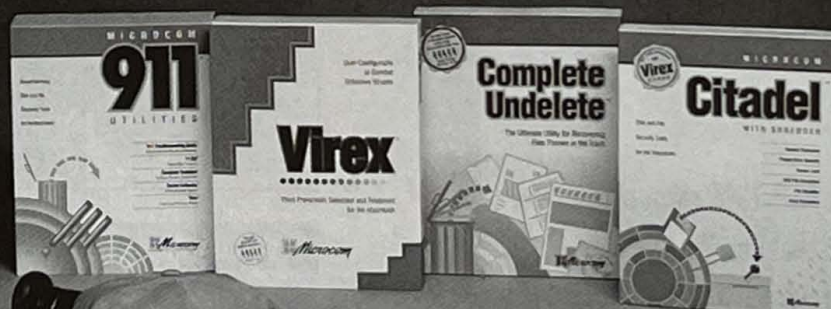
► **Internal adapter kits.** The Roadrunner Adapter Kit, priced at \$49 plus \$29 for internal mounting brackets, lets users install the Apple drives in a Mac Classic, Classic II, SE, SE/30, LC, IIsi, IIfx or IICI.

► **External case.** The Roadrunner External Case Kit, priced at \$129, turns the original mechanism into an external system. The unit can be powered by a cable attached to the floppy drive port on a compact Mac or IIsi; to use the drive with a PowerBook, LC, II, IIfx or Quadra, a separate external power supply, available from Microtech for \$179, is required.

The adapters and the Roadrunner drives, based on 2.5-inch Quantum Go mechanisms, are covered by one-year warranties. Under Microtech's Drive-Up warranty-extension program, buyers of either the internal adapter kit or the external case also can purchase a one-year warranty on the drive taken from the PowerBook for \$59.

Microtech International Inc. is at 158 Commerce St., East Haven, Conn. Phone (203) 468-6223 or (800) 626-4276; fax (203) 468-6466. □

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Silver Cloud does Chooser one better

Offers hierarchical and hidden services

By Margie Wylie

San Francisco — The AG Group next week will announce a desk accessory designed to answer managers' and users' pleas for a more flexible, manageable Chooser.

Due in March, the \$49 Silver Cloud software is a more sophisticated version of Apple's Chooser, the desk accessory through which users view and activate network services, such as printers, servers and shareable modems.

The System 6- and System 7-compatible software lets users and managers reduce or eliminate long lists of network services with hierarchical lists and aliases, or by hiding some network services altogether.

► **Hierarchical zones.** Silver Cloud lets managers and users nest real zones within "quasi-zones" to create a hierarchical Chooser. For example, a network manager might group all Mac volumes available via System 7 file sharing under a quasi-zone called "personal servers." Or, to personalize a Chooser, a user could locate a server under a quasi-zone called "my server."

► **Aliases.** Managers and users

also can create more familiar names for devices and services by giving them an alias, such as "default printer," or "Anne's drop box."

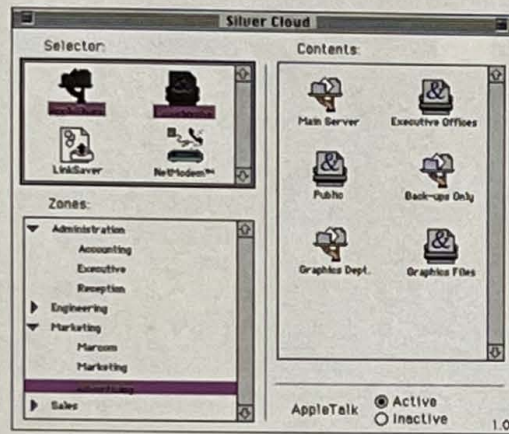
► **Hidden services.** Managers and users can hide services that are inappropriate or unneeded.

► **Simultaneous display.** Silver Cloud lets users show more than one type of device at a time in the Chooser window by selecting multiple icons.

► **Management.** Once set up, Silver Cloud's definitions are stored in a separate prep file, which allows managers to keep network users up to date by simply replacing their prep files.

Prep files, however, can be generated by any Silver Cloud user, not just the administrator. Therefore, the desk accessory can only guide users in what services they use; it does not secure services from access or impose a uniform Chooser interface across the network.

Silver Cloud also will be available in 50-user packs for \$695, 200-user



Silver Cloud replaces Apple's Chooser and allows users to display more than one service at a time in a hierarchical menu.

packs for \$1,695 and 500-user packs for \$3,495.

The AG Group is at 2540 Camino Diablo, Suite 202, Walnut Creek, Calif. 94596. Phone (510) 937-7900; fax (510) 937-2479. □

Ontek brings Macs closer to mainframe

By Margie Wylie

Laguna Hills, Calif. — Ontek Corp. last month introduced a family of tools that help developers tie Mac users into IBM Corp. mainframe databases without repeatedly downloading host data, changing host data structures or requiring translation.

Due in March, Information Access Vehicle (IAV) costs \$45,000 for the mainframe component, \$750 for the developer's kit and \$250 per Mac user. IAV lets developers create Mac applications that request and read data and database tables in the native format of IBM's DB/2 and IMS databases. According to Ontek, IAV combines the fast response time of a mainframe with the Mac interface.

"We can now generate in 10 minutes reports that used to take us four days, and we no longer have to rekey the data we want to use on the Mac," said Pam Bythrow, a beta tester and manager of CIM software engineering at Westinghouse Electronic Systems Group in Baltimore.

The software lets developers build IAV capabilities into their programs using an application programming interface, or into HyperCard, ACIUS Inc.'s 4th Dimension or Microsoft Excel. A publish and subscribe-like capability updates data in a Mac application when it is changed on the mainframe.

Ontek is at 22951 Mill Creek Drive, Laguna Hills, Calif. 92653. Phone (714) 768-0301; fax (714) 768-0851. □

GraceLAN Network Manager gets a little Help! from Teknosys

By Margie Wylie

Austin, Texas — Administrators struggling with analyzing all the combinations of data they can gather with TechWorks Inc.'s GraceLAN Network Manager will soon get help from a program that keeps them up to date on bugs and conflicts.

TechWorks and Teknosys Inc. of Tampa, Fla., last week announced the companies will cooperate to create Network Help!, a version of Teknosys' stand-alone diagnostic program that will work with GraceLAN Network Manager.

Due from TechWorks in March for \$495 for 50 users and \$1,195 for unlimited users, Network Help! will let managers extend Help!'s troubleshooting capabilities to all the Macs on a net simultaneously.

Help! is a diagnostic program that examines a Mac's hardware and software configuration based on a set of rules that will be updated quarterly to reflect new bugs or conflicts. It then returns a status report informing users of problems or potential problems with the Mac's hardware and software configurations.

Rather than scanning each Mac itself, as in the stand-alone version, Net-

work Help! will accept the information that GraceLAN Network Manager gathers and return a report for each Mac on the network.

Network Help!'s rule base will be updated quarterly to reflect new problems as they arise. The first update will be free to Network Help! buyers. Thereafter, users can purchase updates for \$500 per year.

Network Help! will require a new version of GraceLAN Network Manager, to be released concurrently with the diagnostic program. Current owners will receive the upgrade free of charge.

TechWorks Inc. is at 4030 Braker Lane W., Suite 350, Austin, Texas 78759. Phone (512) 794-8533 or (800) 688-7466; fax (512) 794-8520. □

Mac management Help!

Network Help! will uncover:

- Extension conflicts
- Duplicate applications
- Improperly installed files
- Insufficient memory
- Conflicts between applications and hardware
- Hardware and software conflicts with system software

Dayna offers two net watchers

By Mitch Ratcliffe

Salt Lake City — Dayna Communications Inc. next week will introduce two products to help administrators monitor network health.

► **Network Vital Signs**, which will sell for less than \$500 when it ships late this quarter, is a fault-monitoring software package designed to provide device-specific information on each AppleTalk device on a network.

The first release will rely on Routing Table Maintenance Proto-

col (RTMP) packets to log network activity. For example, an AppleTalk Phase 2 router would return a list of currently connected devices, such as Macs, printers and other routers. The application reportedly will allow users to add Dayna modules for additional network reporting capabilities.

Network Vital Signs will allow users to script responses to network events, such as failure of a node. Scripts could include, for instance, See Dayna, Page 16

Dayna's Network Vital Signs software lets managers keep tabs on network devices by polling the routers to which they are attached.



WorkStation moves out, grows up

By Mitch Ratcliffe and Margie Wylie

Cupertino, Calif. — Apple last month handed off MacWorkStation to a third-party developer that will extend the Mac-to-mainframe front-ending program to other platforms.

United Data Corp. will be responsible for development, distribution and support for the Apple Terminal Services (ATS)-based MacWorkStation application and development tools starting Jan. 15. MacWorkStation is a front-ending tool that lets developers put a friendlier graphical interface on mainframe applications, while adding more functionality at the desktop.

MacWorkStation 3.1, which will be renamed ALAC for Macintosh when United Data releases it this month, joins United Data's \$995 ATS-compatible client for DOS and Windows, called Any Language Any Computer (ALAC) servers.

The company also said it will extend MacWorkStation's technology to server platforms other than

IBM mainframes via ATS developers kits for DEC VAXes, Tandem Corp.'s Non-Stop SQL servers, Sun SPARCstations, Hewlett-Packard workstations, Microsoft Windows, DOS and Novell Inc.'s NetWare servers. No development schedule has been announced.

United Data said MacWorkStation is not priced but may be bundled with the ALAC for Windows client, rather than being sold separately. MacWorkStation formerly sold through APDA for \$2,500 to \$5,000, depending on the size of the site.

The company will assume support of current MacWorkStation owners and will offer them an upgrade path to ALAC for Mac 3.1.5, a System 7-compatible version that will ship by April. Upgrade prices are not available.

United Data Corp. is at 3755 Balboa St., Suite 203, San Francisco, Calif. 94121. Phone (415) 750-8068; fax (415) 221-2798. □

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◆ Installing 10BASE-T Ethernet has never been easier or more affordable, thanks to the new eight-port DaynaSTAR MiniHub™ from Dayna. ◆ A true breakthrough in price as well as technology, the DaynaSTAR MiniHub connects up to eight Macintosh, IBM-compatible or other computers, servers and printers over 10BASE-T twisted-pair wiring. At a new industry low price of just \$56 per node. That's less than half the price some of our competitors will charge you. ◆ The MiniHub can support a network of eight devices entirely on its own, or it can be connected to other hubs over 10BASE-T wiring to create larger networks. An additional BNC port allows the MiniHub to be connected to a thin Ethernet backbone if needed. ◆ All important network protocols and operating systems are supported, including AppleShare, NetWare, TOPS for Mac and DOS, Banyan VINES, PhoneNET Talk and DECnet. ◆ With the introduction of the MiniHub, Dayna now offers the most complete line of any vendor of Macintosh

Ethernet products.

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Hubs	Cost Per Node	Ports	Retail Price
DaynaSTAR MiniHub	\$56.	8	\$449.
Asanté 10T Hub	\$83.	12	\$999.
Shiva Hublet	\$99.	4	\$399.
Farallon StarController EN	\$158.	12	\$1895.

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Solectek ships miniature fax modem

By Nathalie Welch

San Diego — Solectek Corp. recently shipped a pocket-size fax modem that can run on battery power and can be used on office phone systems where other modems can't — handy features for PowerBook users who need to fax while on the road.

The Solectek Pocket FAX Modem, priced

at \$349.95, weighs 3.5 ounces. When used with the Solectek Phone Link, priced at \$149.95 for the automatic model or \$119.95 for manual, the modem can communicate directly through any multiline, digital or PBX line.

The unit can be powered either from an internal battery, featuring a "sleep mode" that

conserves battery life when the serial port is inactive, or an external power adapter.

Capable of 9,600-bps send and 4,800-bps receive fax, with 2,400-bps data capabilities, the unit uses Rockwell International Corp.'s Class 1 chip. The Rockwell technology removes most of the processing burden from the fax modem and puts it in the computer via software, making upgrades easier, according to Solectek. The data modem supports MNP levels 2 through 4 error correction and MNP 5 data compression.

The modem comes bundled with customized fax software from STF Technologies Inc. of Concordia, Mo. Features include background operation, multiple addressing of faxes and the ability to print to plain-paper fax machines. A Quick Fax Desk Accessory lets users compose and send short faxes while working in another document.

Solectek Corp. is at 6370 Nancy Ridge Drive, Suite 109, San Diego, Calif. 92121-3212. Phone (619) 450-1220; fax (619) 457-2681. □

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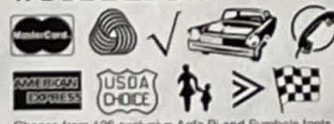
PL Behemoth Semi-Condensed

PL Benguiat Frisky
Beton Extra Bold
Bernhard Modern

PL Davison Americana
Egiziano Black

TC Europa Bold
PL Futura Maxi Light
PL Futura Maxi Demi

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(As of July 1, 1991)

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Pi and Symbol Fonts	145	19	19
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Multimedia Type Tutorial	Free	None	None
Electronic Catalog	Free	None	None
Type Applications	Yes	No	No
Shareware	Yes	No	No
Upgrades	Free	?	?



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Get a Toshiba TXM3301 drive, the AgfaType CD-ROM with 20 Agfa headline faces unlocked, plus a Pi and Symbols font. A \$1,920 value.

Call Agfa for details or the authorized Agfa dealer near you (prices listed are for USA only).

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AGFA Agfa

White Pine tinting terminal emulators

By Mitch Ratcliffe

Nashua, N.H. — White Pine Software Inc. last month announced a family of TCP/IP-based VT300 terminal-emulation applications for the Mac.

Available now, the new programs allow Macs to log onto VAX and Unix computers to run text and graphics applications designed for latest-generation Digital Equipment Corp. and compatible terminals.

Mac320, a \$149 package, allows users to run DEC VT320 emulations—which are normally monochrome—with a color background and text in the terminal window.

The \$249 Mac330 package delivers VT330 emulation for DEC and Tektronix 4010/4014 graphics. It also provides color support for monochrome text terminal applications.

Full color support for DEC, Tektronix and Unix graphics is available in the \$349 Mac340 package from White Pine.

All the packages allow users to launch as many sessions as their Mac's memory can support. VT300 servers normally support only two sessions from a single-network address.

MacTCP, Apple's TCP/IP communications stack for Macs, is bundled with White Pine's software.

Users of the company's Mac200 series emulators can upgrade to the comparable VT300 product for \$50.

White Pine Software Inc. is at 40 Simon St., Nashua, N.H. 03060. Phone (603) 886-9050; fax (603) 886-9051. □

Dayna

From Page 14

having a Mac dial a pager to alert the network administrator when a server disappears.

► **NetScope**, a hardware and software bundle for monitoring traffic on multizone networks, also will ship early this year. A hardware probe collects data for each physical segment of a LocalTalk or Ethernet network and downloads that data to a NetScope application running on the administrator's Mac.

A package that includes the NetScope application and one probe will cost about \$1,000; additional probes, which can feed data to the same copy of the software, will sell for less than \$500, according to Dayna.

Traffic monitoring normally requires dedicating a Mac on each network segment, because these applications cannot observe traffic beyond a router. By using a hardware probe, which collects traffic data and downloads it to a centralized application, users do not have to lose a Mac to monitoring each segment.

Dayna Communications Inc. is at 50 S. Main St., Fifth Floor, Salt Lake City, Utah 84144. Phone (801) 531-0600; fax (801) 359-9135. □



There's no better way to communicate than PersonToPerson.



Asanté™, the leader in Macintosh networking introduces an array of messaging tools that bring the personal touch back to inter-office communication.

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the personalized screensaver lets you leave messages on your screen while you're away from your desk.

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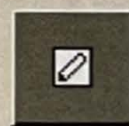
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automatically sends messages when you attach your Macintosh to the network, it's a great tool for PowerBook users who create and send messages when out in the field.

So now your company or departmental work group can interact the best way there is—PersonToPerson.

Resellers: Asanté products are available from Ingram Micro, Tech Data and Macamerica.



Features add up in PageMaker 4.2

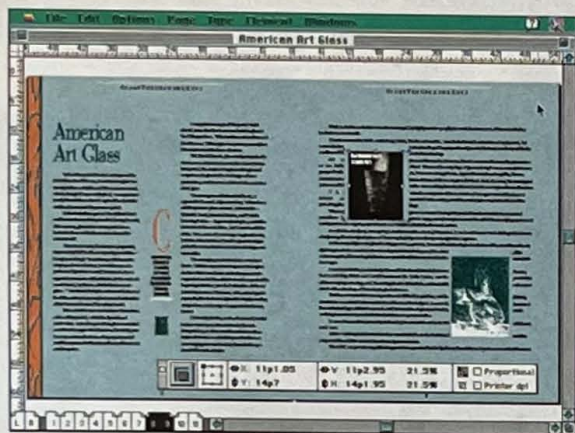
Measurement palette increases precision

By Carolyn Said

Seattle — The version number doesn't reflect it, but Aldus PageMaker 4.2, which shipped last month, is a major upgrade to the \$795 desktop publishing program.

PageMaker 4.2 sports more than 40 new features, including:

► **Aldus Additions.** New technology lets users and developers add features and automate production tasks. The program ships with six Additions for functions such as creating automatic drop caps and sorting pages. "I like Additions a lot. Being able to script any repetitive task definitely makes you more productive," said beta-tester Tom Harper, design systems manager at Peterson & Blyth Associates Inc., a design company in New York. "I don't consider myself a programmer by any stretch of the imagination, but I've been able to script stuff a number of times already,



PageMaker 4.2 adds a Control palette (bottom) from which users can position, move and resize objects, and scale and crop graphics by typing numerical values and coordinates.

and it went quite smoothly," said beta-tester Tim Celeski, owner of Tim Celeski Studios, a graphic design and advertising company based here.

► **System 7-savvy.** PageMaker 4.2 supports Apple events, balloon help and TrueType. A new hot link to Aldus FreeHand 3.1 lets users edit FreeHand art from within PageMaker. "The FreeHand hot link has been really useful," Celeski said. "If I want to rotate something

or adjust it a little bit, I can just do it in FreeHand. It's quite seamless."

► **Control palette.** A new floating measurement palette, similar to the one in QuarkXPress, lets users position, move and resize objects, and scale and crop graphics by typing numerical values and coordinates. The package has "added a level of precision to my work that has been hard to achieve otherwise," Celeski said. "One of its greatest features is

See PageMaker, Page 20

Data Translation goes off line with digital video-editing system

By Erik Holsinger

Marlboro, Mass. — Data Translation Inc. next week will ship a new video-editing system that it said could have a radical effect on the Mac's role in traditional video.

Priced at \$9,995, Media 100 is a digital, non-linear video-editing system that lets Mac users edit and combine full-motion, full-size digital video and CD-quality audio.

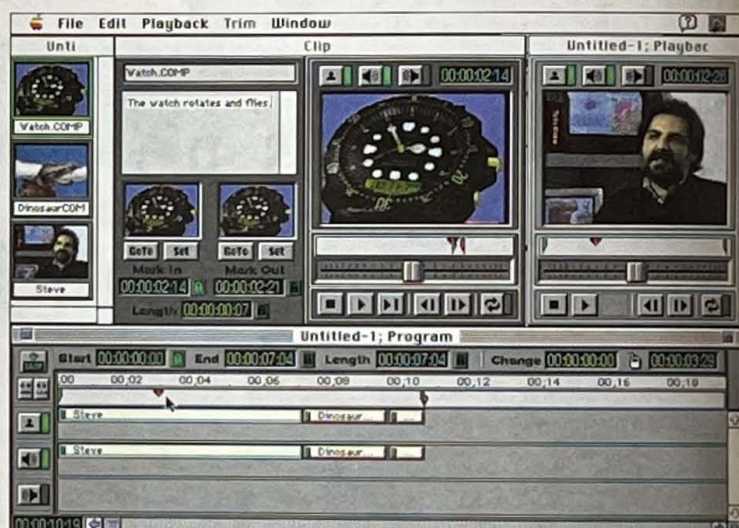
Unlike other digital non-linear editing systems, the quality of the compressed video is high enough to be output directly to tape, virtually

eliminating the need for further post-production work in an on-line editing suite, according to Data Translation.

Media 100 digitizes audio and video direct to a hard disk using a NuBus card and compresses it using the JPEG (Joint Photographic Experts Group) compression scheme, with compression ratios from 20-to-1 to 100-to-1.

Steve Tringali, a principal and director at Rampion Visual Productions in Boston, said that being able

See Media 100, Page 20



The Media 100 non-linear editing software allows several digitized audio and video clips to be combined in any order. Video edits can be fine-tuned by using a mouse or typing in SMPTE timecode.

SCREEN TEST

Mac artist puts digital face on font package

Conshohocken, Pa. — When Letraset needed promotional artwork that would break its typecasting as a maker of traditional rub-on letters, it looked to Dan Marcolina.

Letraset asked Marcolina, owner of Marcolina Design Inc. here, to use Letraset's ColorStudio image-editing program to create the artwork for the Paramus, N.J.-based company's Fontek line of electronic typefaces. Marcolina assembled an electronic collage of images intended to appeal to

traditional as well as desktop users. "I wanted to give it an arty, textured feeling," he said. "The whole point of this illustration was to show that [the collection included] TrueType and PostScript Type 1 and to make the connection to old type quality."

Marcolina worked on a Mac IIx with an accelerated 19-inch SuperMac Technology 24-bit-color display system and 20 Mbytes of RAM; he used a Wacom graphics tablet and a Kodak 77 color printer for proofing.

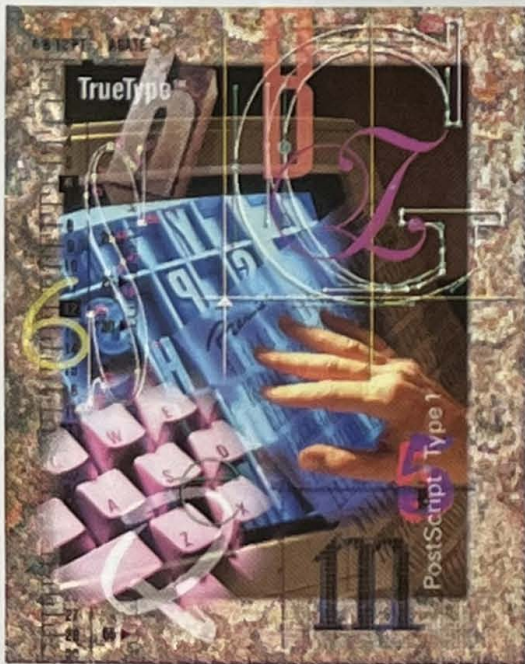
His scanned materials came from a variety of sources. The hand on-screen with the type was scanned in from a 35mm slide with an Optronics ColorGetter drum scanner at Cage Graphic Arts of Philadelphia; the type box was a video grab off a Canon USA Inc. A-1 digital High-Band camera using a RasterOps 364 video board.

Marcolina scanned in Polaroid photos of the marbled border, the old-fashioned wood type, the keyboard and the background texture on an Epson America Inc. SX-70 Polaroid flatbed scanner. He distorted the border using ColorStudio's filter and "added a little bit of noise" to give it a digital look.

To create the bit-mapped letters in the foreground, Marcolina opened up fonts in Letraset's FontStudio; varied the colors of the type in FontStudio's Shapes layer; and made screen grabs of the type, lines and arrows with Capture, then imported them into ColorStudio.

The whole package was translated through a Quantel PaintBox in Digital Data Service (DDS) format and output on a Dainippon printer.

Marcolina said he uses ColorStudio for its precision and CMYK (cyan, magenta, yellow, black) controls but that he also is a "very avid user" of Adobe Photoshop. "Photoshop is very intuitive and easy to use, while ColorStudio has much more detail and control. In my situation, I need both," he said. — By Matthew Rothenberg



Adobe Premiere seeks audience of QuickTime movie producers

By Carolyn Said

Mountain View, Calif. — Hoping to make movie making the next desktop revolution, Adobe Systems Inc. recently shipped Premiere, its digital video-editing software.

In conjunction with QuickTime, Apple's multimedia extension, Premiere lets users combine digital video, audio, animation, still images and graphics to create digital movies on the Mac (see MacWEEK, Nov. 12, 1991).

"I can't see much use of Premiere for professional video, but to make movies that will be played back in QuickTime, it's a superior piece of software," said beta-tester Peter Adair, partner at Adair & Armstrong, a video production and software development company in San Francisco.

The program features an intuitive

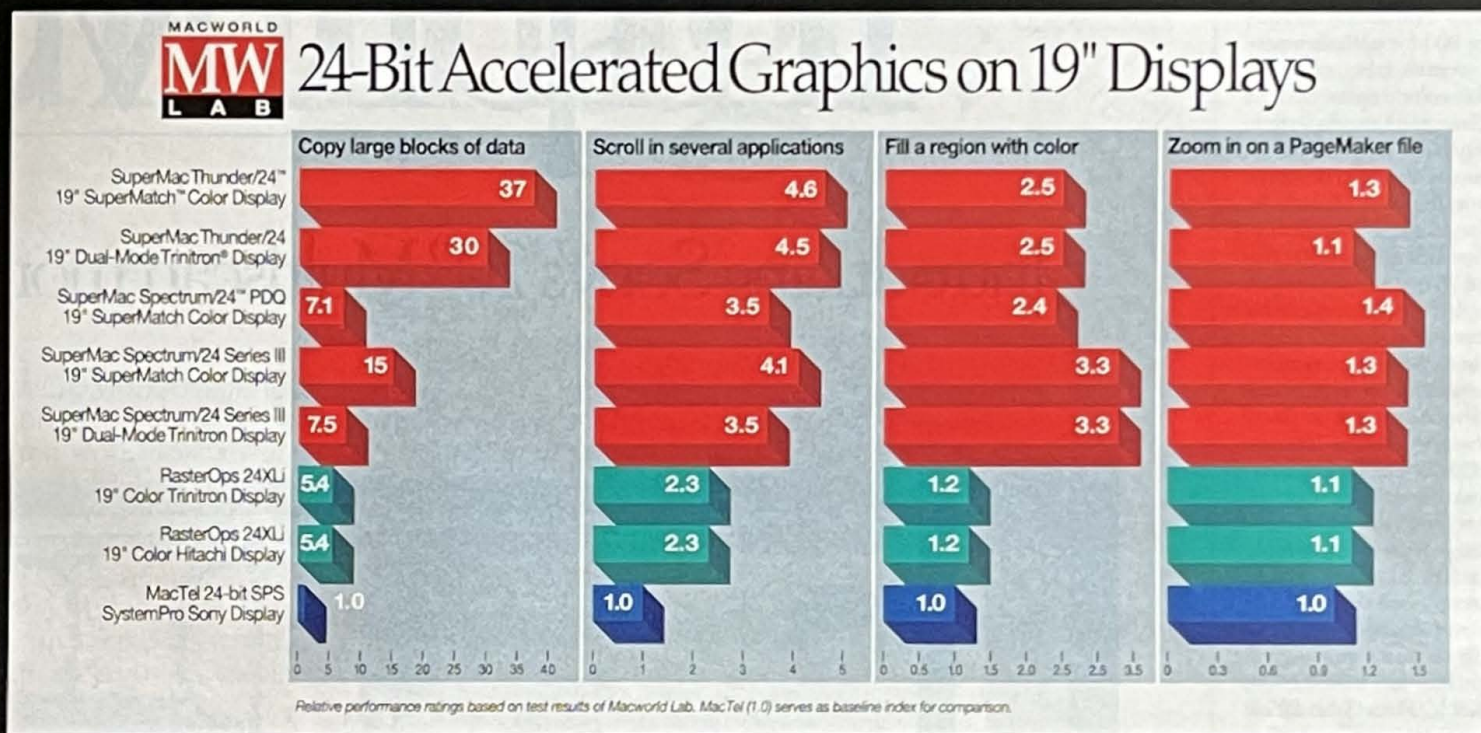
interface that displays tracks in film-strip style. Digital effects, such as wipes, fades, dissolves, zooms and page turns, are selected from animation icons. "The interface is terrific; it's a really smart design," Adair said.

Premiere should find a ready-made audience among QuickTime fans, Adair said. "Whenever you use QuickTime, you're really going to need Premiere," he said. "You've got to be able to edit the stuff; you can trim QuickTime movies, but that's about all you can do."

Premiere sells for \$495. It was originally developed by SuperMac Technology of Sunnyvale, Calif., and called ReelTime.

Adobe Systems Inc. is at 1585 Charleston Road, P.O. Box 7900, Mountain View, Calif. 94039-7900. Phone (415) 961-4400; fax (415) 961-3769. □

Macworld Magazine Rates SuperMac Number 1, 2, 3, 4, and 5!



The 1991 Macworld Lab test results on 24-bit color display systems are in. Out of the fifteen 19" color display systems tested SuperMac™ swept the top five places. And out of the six 21" color display systems, SuperMac captured the top two places. But SuperMac's boards and monitors were not just marginally faster—even our lowest-cost Spectrum/24 Series III outperformed its more expensive competitors.

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See why the experts rated SuperMac tops for speed. Get a full copy of the Macworld report by calling 1-800-334-3005.

"Editor's Choice:

...get a SuperMac 21" SuperMatch Two-Page Color Display with a Spectrum/24 PDQ board, or better yet, the super-fast Thunder/24.

The color on these systems is beautiful, the text is crisp ..."

Macworld Magazine

SUPERMAC™
The SuperSource for Color

Virtus WalkThrough opens doors to other programs

By Rochelle Garner

Cary, N.C. — Virtus Corp. this month will ship an updated version of its WalkThrough spatial-modeling software that addresses an acknowledged drawback of the original release: Users simply could not move their designs to other applications.

Free to current users, Version 1.1 of the

\$395 program will support a variety of import/export and printing options.

WalkThrough will now import images saved in 2-D and 3-D DXF (Drawing Interchange Format), PICT, Claris CAD, and MacDraw formats. Any imported 2-D image can be overlaid with WalkThrough-created objects.

The program can export files in 2-D and 3-D DXF, PICT, Encapsulated PostScript, Claris CAD, and MacDraw formats. Users can create an animated sequence of movements by exporting files in PICS format or as a recorded QuickTime movie of a path, letting other QuickTime-compatible applications play back the WalkThrough path.

Other new features include support for core Apple events and balloon help; faster rendering speeds; metric and user-defined measurements; and the ability to print PICT and EPS files. Objects placed in a room now can be scaled to fit; rescaling a room will modify all objects contained in it. And a new tool now makes it easier to duplicate and place objects.

Virtus Corp. is at 117 Edinburgh S., Suite 204, Cary, N.C. 27511. Phone (919) 467-9700; fax (919) 460-4530. □

Media 100

From Page 18

to try out different edit variations quickly using a non-linear editing system is vital to enlivening dull productions.

The Media 100 system can be driven by a Mac IIx, although Data Translation recommends a Quadra 700 or 900 for optimum performance. The Mac system also needs 8 Mbytes of RAM, a 24-bit-color display, System 7 and Apple's QuickTime multimedia extension. Media 100 can play back and edit QuickTime movies, but because of the large file sizes, Media 100 QuickTime movies cannot be played back without the Media 100 hardware.

At low compression levels, the Media 100 system can store only about 22 minutes of video on a 1.2-Gbyte hard drive. Up to six drives can be daisy-chained together for added storage.

Alan Leon, president of Adcom Communications Inc., a video systems integrator and computer graphics reseller based in New York, estimates that turnkey Media 100 systems will cost about \$30,000, including computer and required hard disk storage.

While the initial version of the Media 100 system will be able to perform only simple cuts and fades, Data Translation plans to expand the system. An optional video-effects accelerator that will provide a variety of transitional effects, such as wipes and dissolves, will be available in mid-April for less than \$3,000, according to Tobin Koch, Data Translation product marketing evangelist.

Media 100's main competition will come primarily from two other non-linear editing systems: Digital FX's \$9,995 Video F/X 2.1, an analog video-editing system capable of non-linear editing, and Avid Technology Inc.'s \$29,500 Avid 200 and \$69,500 Avid 2000 Media composer series, non-linear turnkey systems designed for the high-end video post-production market.

Data Translation Inc. is at 100 Locke Drive, Marlboro, Mass. 01752. Phone (508) 481-3700; fax (508) 481-8620. □

PageMaker

From Page 18

that if you want to add or subtract from a measurement, it will do the math for you."

► **PrePrint 1.5.** PageMaker 4.2 comes bundled with PrePrint, Aldus' color correction and separation software.

► **Productivity enhancements.** New features in the update include interruptible screen redraw, speedier text import, improved text auto-flow and faster launching of the application. "From a production standpoint, being able to stop screen redraw makes it lot easier to get on with your work," Peterson and Blyth's Harper said.

PageMaker 4.0 or 4.01 users can upgrade for \$85; owners of earlier versions can upgrade for \$150. PrePrint 1.5 is included as part of the upgrade.

Aldus Corp. is at 411 First Ave. S., Seattle, Wash. 98104-2871. Phone (206) 622-5500; fax (206) 343-4240. □

Improve y

Introducing Sony's 20" Multiscan® monitor.



FreeHand 3.1 gets pressure-sensitive, adds hot links

By Carolyn Said

Seattle — Aldus Corp. recently shipped FreeHand 3.1. The update to the \$595 illustration program adds full System 7 support (including a hot link to Aldus PageMaker 4.2) and pressure-sensitive capabilities to the free-hand drawing tool.

The new FreeHand also offers productivity

enhancements, such as improved element manipulation; more import and export options; and faster, more versatile printing.

The pressure-sensitive capability "opens tremendous illustrative avenues," said beta-tester Tim Celeski, owner of Tim Celeski Studios, a graphic design and advertising company based here. "It's great for creating type and

unusual things that used to take a lot of time. I'd love to see a way to apply that [capability] to other tools in FreeHand."

Upgrades are \$50 for FreeHand 3.0 users and \$150 for owners of previous versions.

Aldus Corp. is at 411 First Ave. S., Seattle, Wash. 98104-2871. Phone (206) 622-5500; fax (206) 343-4240. □

CalComp unveils \$395 DrawingPad for graphic artists

By Nathalie Welch

Scottsdale, Ariz. — CalComp Inc. last week shipped DrawingPad, a 7.5-square-inch graphics tablet aimed at graphic artists.

The company will introduce the latest addition to its DrawingBoard II family of graphics tablets at Macworld Expo next week.

Combining features of a graphics tablet, a digitizer and a mouse, the \$395 device can be used to create graphics on the Mac or convert paper-based images into digital form for editing on the Mac.

DrawingPad offers accuracy of up to 0.025 inches and resolutions of up to 1,000 lines per inch. It sports 18 user-recordable buttons that can be programmed with macro software included in the package or with off-the-shelf Mac macro packages.

DrawingPad is compatible with software that supports pressure-sensitive input, such as Adobe Photoshop; Aldus FreeHand, SuperPaint and Digital Darkroom; Deneba Software's Canvas; and Letraset's ColorStudio.

Users can choose from among several cordless pen and cursor input devices. Options include four-button or 16-button cursors and two- or three-button pens that also have tilt, height and pressure capabilities. Additional pens and cursors are \$150 each.

DrawingPad connects to the Mac via the serial port. An interface kit and power supply are included. The system is covered by a lifetime limited warranty.

CalComp Inc.'s Digitizer Products Group is at 14555 N. 82nd St., Scottsdale, Ariz. 85260. Phone (602) 948-6540 or (800) 458-5888; fax (602) 948-5508. □

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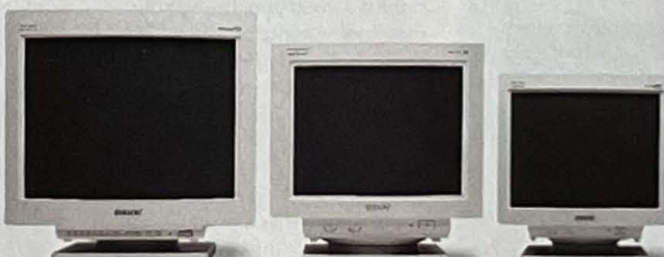
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SONY

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Photoshop upgrade supports Quadras

By Carolyn Said

Mountain View, Calif. — Adobe Systems Inc. has made its image-processing software compatible with the Mac Quadras. The company last month announced and shipped Photoshop 2.0.1, an update that adds full compatibility with the Quadras and includes Adobe Type Manager 2.0.3, which also is compatible with the new 68040 Macs.

Photoshop 2.0.1 also contains four new plug-in modules that let it export paths created with the pen tool, add special photographic highlights, import object-oriented PICT files with soft edges and compress images using the JPEG (Joint Photographic Experts Group) compression scheme. In addition, Photoshop 2.0.1 adds support for the TOYO 88 color-swatching system.

The program remains \$895; Version 2.0 owners will receive the upgrade free.

Adobe is offering a limited-time special that will let Photoshop owners buy Premiere, its new digital video-editing application, for \$199, 60 percent less than the \$495 list price.

Adobe Systems Inc. is at 1585 Charleston Road, P.O. Box 7900, Mountain View, Calif. 94039-7900. Phone (415) 961-4400; fax (415) 961-3769. □

EDITORIAL

Virtual eye candy won't boost productivity

The Mac interface is stretched so thin on some of the more sophisticated applications, it's about to snap.

While the Mac lets users control complex programs more intuitively than DOS and Windows, developers and Apple recognize that even icon-based interfaces have their limitations.

That's one reason for excitement over the first appearance in the United States of *Virtuality*, an arcade game from the British company W Industries. *Virtuality* gives us some tantalizing glimpses of how multimedia can be used to create an interface that draws users into the computer's world.

But there is an intrinsic limitation to virtual reality technology. It creates a unique sensory experience and allows for new ways of manipulating data, but it doesn't make computers much smarter. As a result, its value as a productivity enhancer is questionable.

In all the enthusiasm surrounding virtual reality, we may be overlooking an interface technology of greater promise: intelligent agents.

Unlike virtual reality, which gives the illusion that the user's body is inserted into the interface, intelligent agents form a buffer between human and machine.

Apple has made some headway in this area: Apple events was designed so that applications could interact with one another. Intelligent agents take the concept a step further: They would observe user behavior to anticipate the user's needs. These agents could also operate as filters, sifting through mounds of data and selecting only information the users would be interested in.

We already have some primitive examples of how intelligent agents would work to increase user productivity. For instance, in System 7, when you drop an extension file into the System folder, the Mac interface asks if you'd like it to put the file in the Extensions folder. It anticipates where the user would most likely want the file to reside based on the file type.

Intelligent agents promise users the ability to craft their own interface, helping make computers truly "personal."

Because it is the job of computers to enhance productivity, not supply eye candy, we urge Apple and others to invest in intelligence and leave the pizzazz of *Virtuality* to gamers. □

3

years ago in MacWEEK

Jan. 3, 1989: News of two new products intrigues managers: Jasmine Technologies Inc.'s DirectServe, an AppleTalk Filing Protocol-compatible file server, and a 68030 version of the SE.

In retrospect: The less said about DirectServe the better, but the SE/30 had a long and successful run until its successor, the Classic II, hit the market late last year.



Letters

Apple has Mac OS update idea of its own

The recent editorial and story (MacWEEK, Nov. 5) called Apple less than candid about the release of System 7.0.1.

If users have been finding consistent performance increases in common applications, I'll agree with you. But as your story is based on benchmarks, not on applications, I prefer to stand by our claim that most users won't see a significant benefit with the applications they use.

I agree that users and system administrators shouldn't be put through another full upgrade, especially for no real benefit. And I've been hearing for months that people expected the next release of System 7 to be "the one with the fixes in it." Perhaps we were overzealous in emphasizing that 7.0.1 wasn't it. I regret the confusion, but our goal was to save people the trouble of upgrading and getting less than they expected.

A 7.0.1 Change Overview is posted on AppleLink alongside the release software. The overview and software were mailed directly to the thousands of Mac managers who subscribe to the Apple Software Update Program. This overview includes a description of the Standard Apple Numeric Environment (SANE) change, the machines affected and the anticipated effects. It also describes five other changes that, like the SANE patch, were made to support and optimize the new hardware, and have a negligible effect on other machines. I'm stumped as to how we could be more candid than documenting these in the release notes.

Your suggestion to deliver future bug fixes and performance enhancements as drop-in extensions is a good one, though the details of version control and INIT conflicts would need to be worked out. In fact, a beta version of Omega SANE has been available as just such a drop-in.

It's on the ETO disk, available through APDA. We hadn't finalized and released it as a product option because of the difficulty of explaining why it sped up benchmarks but had little effect on real-world use.

Chris Espinosa, manager
System Software Marketing
Apple USA
Cupertino, Calif.

MIDI makes multimedia Mac music memorable

I think Steve Rosenthal misses the boat in the New Media column (MacWEEK, Dec. 3) when he says that if only we had the right kind of software the Mac could be turned into an automatic music-for-multimedia composing machine. The Mac does a reasonable job of recording and playing back medium-fidelity audio, but that's a far cry from what is needed for a real music-synthesis engine. The amount of computing power and expert system programming necessary to turn the Macintosh sound chip into a synthesizer that anyone would actually want to listen to is staggering.

However, Musical Instrument Digital Interface, the technology that makes composing music for multimedia easy, already exists. MIDI leaves the data-intensive task of producing the actual audio to dedicated hardware. There are plenty of MIDI modules available.

General MIDI, a new addition to the MIDI specification, is expressly for multimedia applications. It takes the guesswork out of using MIDI by tightly defining the vocabulary of sounds (both music and effects) that a composer will use. Many devices that conform to this specification will be appearing in the next few months.

As for automatic composers, some already exist, although they're not as simple as Rosenthal would like. Several suppliers, including Passport Designs and Voyetra Technologies are issuing libraries of "clip music" for multimedia. These contain hun-



dreds of General MIDI sequences in a variety of styles and lengths. For those who want to experiment and customize the music, there are inexpensive, easy-to-use sequences, such as Passport's Trax and Opcode Systems Inc.'s EZ Vision.

The help the Mac needs to compose music is both cheap and of high quality.

Paul D. Lehrman
Arlington, Mass.

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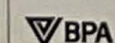
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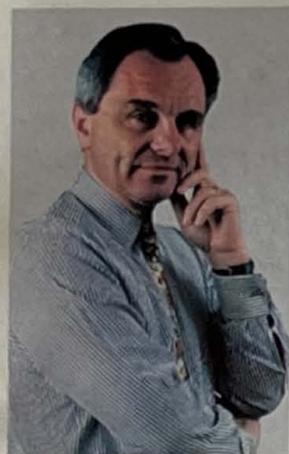
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Commentary

Hypertext still languishing in market limbo



JEAN-LOUIS GASSÉE

The hypertext dream is such a beautiful one. To quote Ted Nelson, the prophet, if not the original inventor of the concept: "Hypertext at last offers the possibility of representing and exploring it [the world] all without carving it up destructively."

It is the ultimate form of knowledge representation allowed by computers, by virtue of their very gift for combining, storing and retrieving multiple kinds of data.

The core idea is seductively simple. Within a document or, if you will, under it, you store links to other items in the document itself or, more likely, somewhere else in the vast database. And you're on your way to a journey on an infinite network of references, jumping from newspaper to book, from scholarly journal to *samizdat*s and electronic palimpsests.

Hypertext limbo. Despite its power and apparently natural use of computer and network technology, the idea has been languishing in market limbo for about two decades. (Nelson's seminal book on hypertext, "Computer Lib," was published in 1974.)

Note that hypertext is not

acknowledged enough to take its place between hypertension and hyperthyroidism in the Encyclopedia Britannica and the Oxford English Dictionary.

And perhaps with reason. We have millions of computers and networks, and nearly everything published today is stored on a hard disk or magnetic tape somewhere, but hypertext is still primarily an idea incubating in academia. Even the dollar-per-gigabyte cost of CD-ROM and the advent of HyperCard and its imitators have failed to transmute the hypertext dream into a reality.

Hyperventilation. To understand what did not and, perhaps, cannot happen, let's make a hypernewspaper. We'll waive a few restrictions. Let's assume human beings actually like reading off a computer screen and that we have

fast, inexpensive networking on tap. Furthermore, we'll assume that we concern ourselves only with one-hop links. We trust the target of our links to provide, in turn, other connections that branch out in unpredictable and rewarding ways.

A problem immediately arises, however. The number of links required to cover a typical New York Times weekday issue, for example, is monumental. How many hyperlinks per page? Probably several hundred. If this number seems high, think of the many different kinds of readers and hyperlinks needed to fulfill the hypertext promise. Consider the first page of the Business Day section. In the Digest column, there are about 20 items; each one easily generates five to 10 references to sources, full text of declarations, releases, IRS rulings, statistics, past issues and agency dispatches. And that's not counting

glossaries and dictionaries. So, for a single issue of the NYT, for the links to be rich enough to be taken for granted, we need thousands, if not tens of thousands of connections.

Link creation. You might think having the computer make the connections would solve the problem, but that's impossible. To be interesting, links cannot originate from only a single word, such as "politically." The computer needs to understand the meaning of politically correct, paraphrases, allusions, euphemisms. And then it needs to define the destinations, which presents the artificial-intelligence problem: Computers manipulate symbol strings much better than humans, but humans extract meaning from symbol strings much better than computers.

Now, if the link-creation problem

isn't enough, how do we reach the universe of documents our NYT points to? Earlier, I stated that we have all this information already stored in computers. On closer examination, this is not a correct assumption. There is no directory, or global hyperlibrary, for all the information to which we could link our hypernewspaper. Every document ever published would need to be registered with this directory with its own array of links. Putting a human on Mars might look simple by comparison.

So, do we give up and, instead, design yet another word processor with 35 percent more features than the previous one? Perhaps Ted Nelson is describing airplanes to Mesopotamian peasants in 7,000 B.C. Perhaps between muleback and air travel there is room for inventing the wheel and the automobile. □

The Mac Manager

Managing Mac as a strategic resource: Where to begin?

Whether you're an old hand at the Macintosh management game or have recently joined the party, one thing is certain — the times, they are a changin'. Most likely, you manage a mix of Macs, DOS and Windows systems, and a variety of hosts such as Unix workstations, DEC VAXes and mainframes.

Not only do you have to manage change, but to keep your company competitive, you have to push your Macs to the next step as corporate strategic resources.

Planning to manage those resources strategically will be anything but simple.

Whip out your tools. Many Mac managers find themselves pulled in all kinds of directions by the operational demands of their

companies. With this pressure to make the everyday stuff work smoothly, how can any of us map out the best applications to make our computing resources more strategic?

One obvious answer would be better development tools, a position I have argued here before. But you need more than just good development tools to manage the change that is being forced upon you. You also have to understand the kinds of information and tasks your users need to perform with those Macs, while applying emerging technologies such as QuickTime, client-serving computing (including Quadra-based, high-performance servers), and better seamless connectivity.

Data and applications that used to be the sole province of larger computers are migrating down to Macs, where they can be better controlled and exploited. A lot of companies will speed up this migration in 1992, because the tools necessary for it have matured during 1991.

What you need. Deciding what development tools to use in 1992 will be easy compared with deciding how to apply them. What difficulties do your users face that the Mac can help surmount?

Complicating the issue is the fact that competitive businesses no longer are satisfied with their current mix of data-processing systems.

Many companies last year installed more copies of Windows, replaced their transaction-based hosts with Unix systems and established the Mac IIci as their basic corporate Mac. Managing that kind of change is hard enough, with the

result that few managers get down to the real task of revamping their applications.

That is dangerously shortsighted. Why? Because in the corporate scheme of things you become a high-level executive in charge of bytes and wires, rather than a manager valued for your ability to recognize and meet strategic corporate goals.

Keeping your sanity. Recognizing the kinds of applications you need to offer your Mac users is one thing, figuring out how to do it is another. And that means you will have to look to others for some guidance as you craft your strategic plans.

Apple has made much of its in-house computing architecture — called VITAL (virtually integrated technical architecture lifecycle) — for making host systems serve Mac users, rather than the traditional approach in which all users work within the host system's constraints.

But while this vision is attractive, it is enormously complex. And that means Mac managers can expect to wait a long time for Apple to release its guidelines for implementing VITAL.

In lieu of Apple, you can turn to others who already took their first steps to managing change. Don't be shy. Hook up with others in your position, such as the Microcomputer Managers Association or Managing Apple Computers in Information Systems (MacIS). And don't forget the wealth of available knowledge known as computer consultants.

But whatever you do, don't let the changin' times overtake you. If you do, you could become a dinosaur, like your aging COBOL and RPG systems. □



DON CRABBE

MacTOON



"Me, I never backed up my network."

1991: Paving the way to a new era

System 7 and the introduction of the PowerBooks energized the Mac market in 1991, but the effects of many of the biggest changes, such as QuickTime and the Apple-IBM alliance, remain to be felt.

By Henry Norr

The Mac's eighth year was one of new beginnings, foundation laying and direction setting.

Over the past 12 months, the Macintosh experience has changed in some significant ways — most clearly through the release of System 7 and the emergence of the PowerBooks. These events, coupled with the success of Apple's efforts to boost unit sales, have brought new excitement and opportunity to the Mac market, despite the continuing recession and mounting competition from Windows.

But the full impact of these developments, in the form of concrete changes in the way most users work, has yet to come. The same goes for several other key advances of 1991, including Apple's QuickTime multimedia extension, the company's new image-publishing technologies and Adobe Systems Inc.'s PostScript Level II and forthcoming Multiple Master fonts.

And the year's most dramatic news — Apple's alliance with IBM Corp. and the associated revelations about future hardware and operating systems — won't have much direct effect on users until later in the decade.

► **System 7.** A year ago, in our review of *See A look back, Page 30*



CHAD KUBO

The new year will be marked by more systems with color and better performance, less-expensive software and, possibly, a whole new market for Apple.

By Andrew Gore

"The trouble with our times is that the future is not what it used to be." — Paul Valéry

If 1991 was the year Apple started on some bold new courses, 1992 will be the year Mac users make their first forays into those undiscovered countries.

Apple CEO John Sculley, who usually takes a conservative view of the future, said 1992 would be a banner year for Apple, including the possible shipment of its first consumer electronics products.

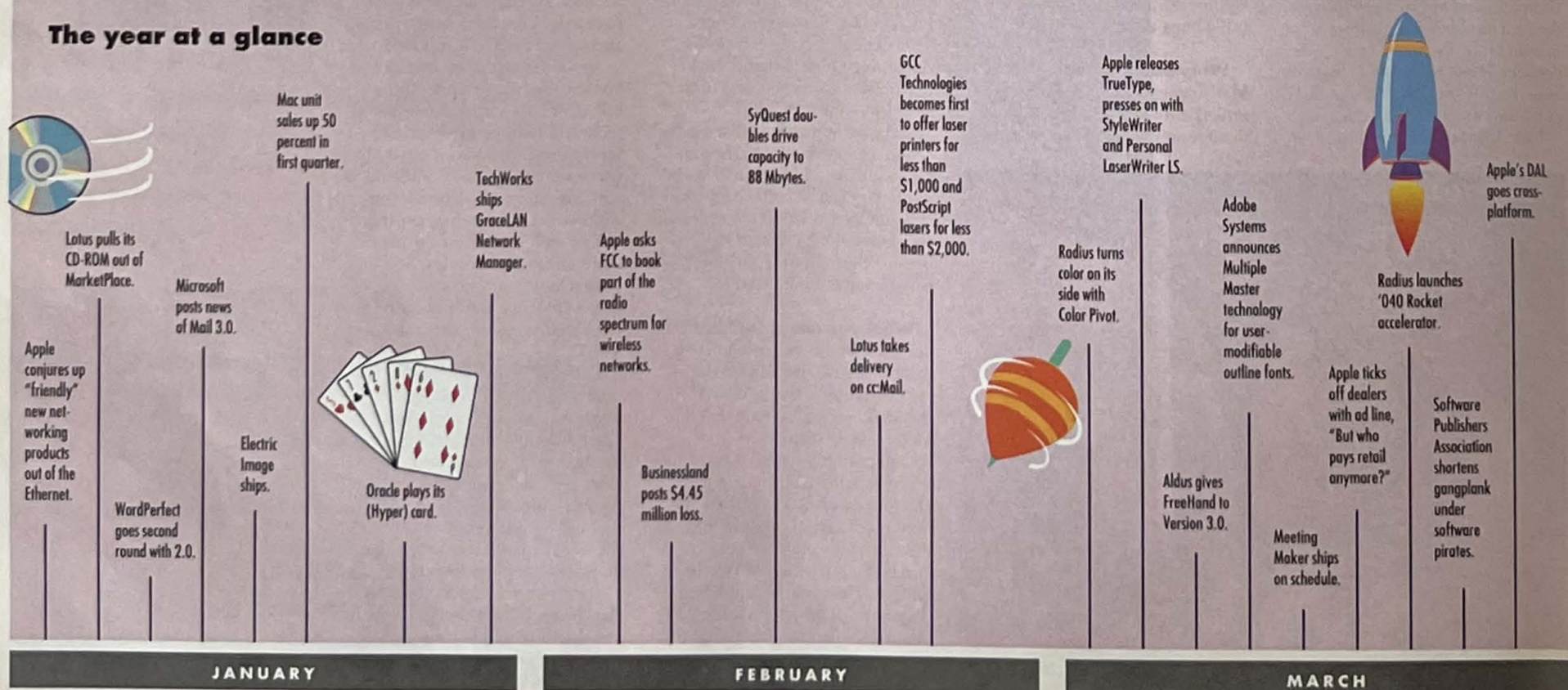
Users this year also can expect to see greater strides for mobile Macs, more power added to the low-cost machines, more performance on high-end systems and color printing.

We will also see a change in Macintosh programs: a greater emphasis on less-expensive software for lower-cost Macs, along with a re-evaluation of what features programs should provide as some of those capabilities start to appear in the system software.

"Apple's future definitely isn't what it used to be," said Ash Jain, vice president of client services for The Irvine Resource Group, a Macintosh research firm in Irvine, Calif.

See A look ahead, Page 32

The year at a glance



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Headlines that sounded good at the time

Dance of the System 7.0 veils — Mac the Knife — Jan. 8

Virex package gets booster shot — Jan. 8

Growing market for shrinking images — Feb. 19
(image compression products)

Why you should give a DAM about DAL — March 5

New toys for control freaks — April 16

Active Memory laps at U.S. shores — April 16
(French PIM comes to U.S.)

Virtual memory: Disk in RAM's clothing — May 14

Toward promised LAN: System 7's client-server dream — Aug. 6

Trackballs becoming serious rodent killers — Aug. 6

How many shuttles does it take to lift Portable? — Aug. 6
(Mac Portable accompanies crew of space shuttle Atlantis)

Radius raises shields to ward off ELF — Aug. 6

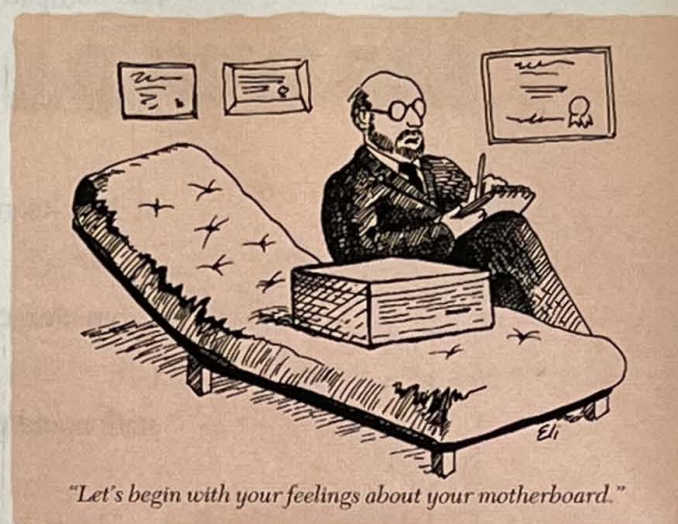


Mac six-pack on tap for October fest — Aug. 20

Apple bobs in Comdex seas — Oct. 29

Quadra compatibility a cache-22 for users — Nov. 5

Trapdoor unhinges DSS security — Dec. 10

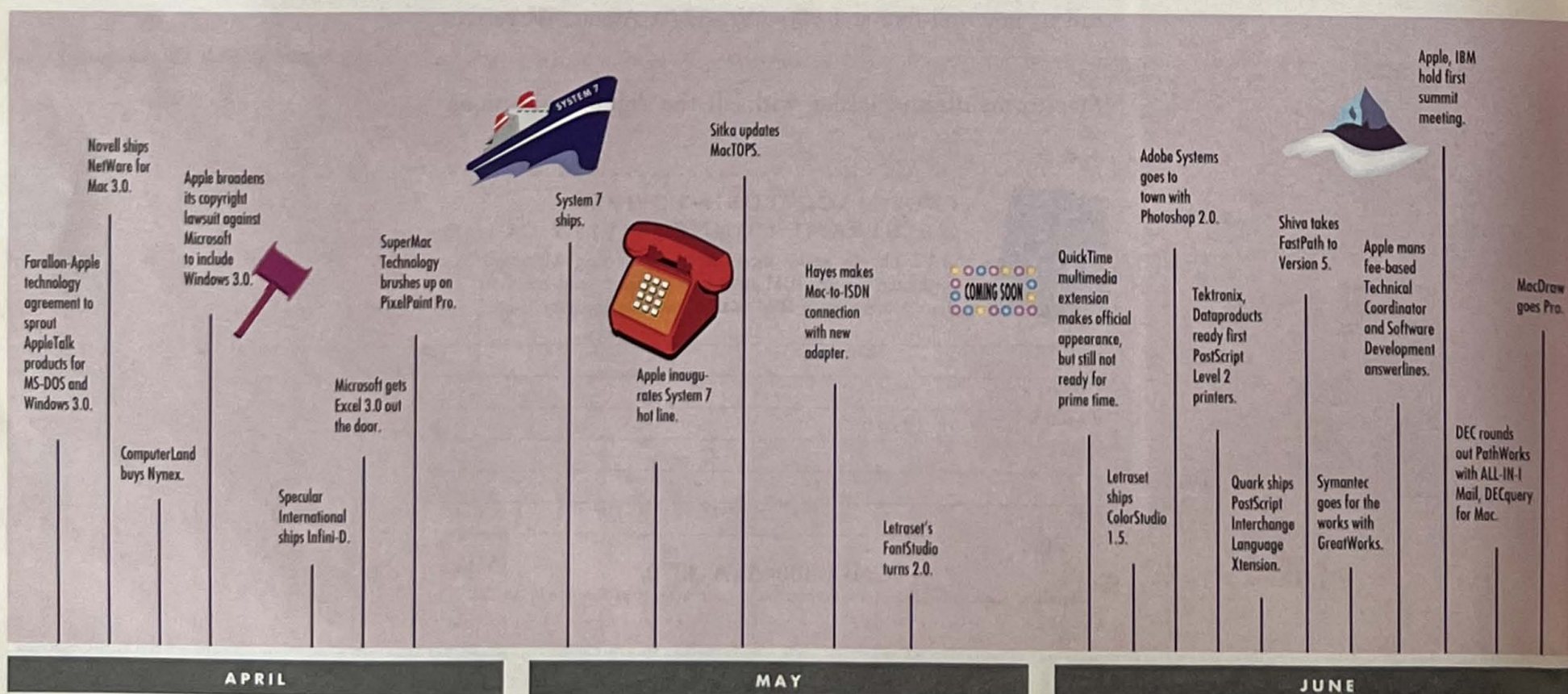


"Let's begin with your feelings about your motherboard."

Sights from Macworld Expo, Boston



What do you
get when you cross
Apple and IBM?
IBM.



Noteworthy quotes: Yes, they really said it

"It's as though Apple is saying to third-party developers, 'Here, we'll take a substantial business and screw it up and give you an opportunity.'" Stewart Alsop, publisher of P.C. Letter in Redwood City, Calif., on Apple's decision not to spin off Claris Corp. — Feb. 5

"Prices shown are suggested retail. But who pays retail anymore?" Footnote in Apple ad. — March 19

"I had a client who was guilty as all get-out ... I used Negotiator Pro [and] I got my client's sentence reduced to four years from seven years." David Vandagriff, an attorney in Monett, Mo. — March 19

"Freedom of speech is not an issue, and it certainly is not an issue to a Canadian." Former GENie General Manager Bill Loudon, discussing the on-line service's lockout of members who disagreed publicly with GENie management. — April 16



"Imagine that tomorrow Secret Service agents walked into your house with a warrant that said they thought there might be something incriminating in your home, but they didn't know

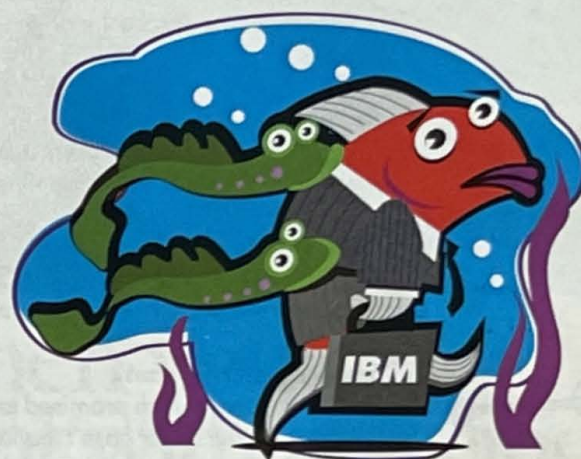
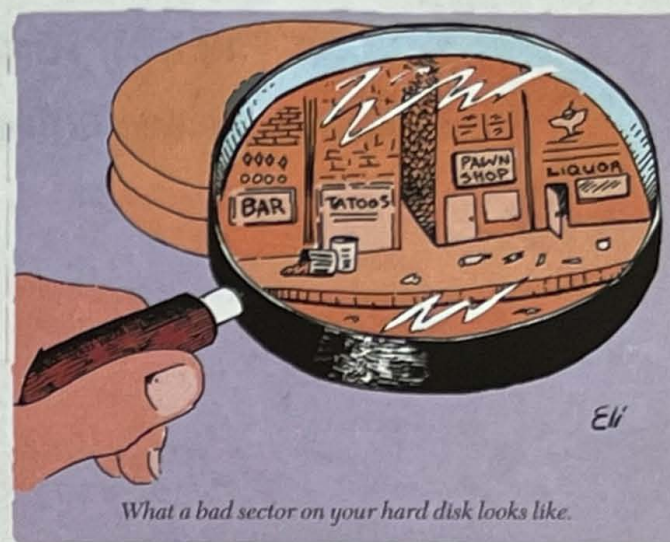
what ... [And] they could take anything they thought looked interesting." Gerard Van der Leun, Electronic Frontier Foundation director of communications, on the seizure of publisher Steve Jackson's computer equipment. Jackson later sued. — May 14

"Multimedia before QuickTime was the integration of everything you've never wanted to integrate." Don Buffamanti, CEO of Infonaut Inc., a Getzville, N.Y., consulting company. — June 11

"Hey, folks, get with the program. All you System 6-using retros are but grapes in the path of the steamroller of progress." Ask David Ramsey — Aug. 13

"Many A/UX users view a possible AIX port with about the same enthusiasm they would give to being eaten alive by leeches." Richard Todd, A/UX user from Norman, Okla., reacting to initial reports about the Apple-IBM Corp. alliance. — Aug. 20

"I drooled when I saw TechStep and I'm heartbroken I can't get it ... There's enough craziness in computers that I'm not sure some of it isn't voodoo. TechStep would give me a warm fuzzy feeling that the repair actually works." Kirk Mackes, information center administrator, Connaught Laboratories Inc., Swiftwater, Pa. — Dec. 3



"Apple and Novell are like lampreys to big-fish IBM. IBM thinks we'll just be a nuisance they can shake off as soon as they don't need us anymore, but we'll suck them dry before they can get to the gate."

— unidentified Novell rep (8/13)

Apple and IBM form technology alliance.



Strata ships Version 3.0 of StrataVision 3d.



JWP buys out Businessland.

Adobe ropes in ReelTime video-editing software from SuperMac Technology, renames it Premiere.

Jasmine Technologies, the sequel, closes shop again.

MacroMind plays Director 3.0

Paracomp and MacroMind announce plans to merge.

Borland International buys Ashton-Tate.

Outbound Systems beats Apple to market with notebook computer.

Tariff on active-matrix displays threatens PowerBooks.



Deneba paints Canvas 3.0.

First Macworld Expo with System 7.

Claris ships Resolve, its Wingz-inspired spreadsheet.

Strata, Ray Dream demo distributed rendering systems RenderPro and DreamNet, respectively.

Apple licenses "ROM cleaner" from Connectix.

Adobe Type 1 font technology to get guest role in System 7.

MacVONK's netOctopus lends hand with network monitoring, updating.



Apple says it will round up customer-service centers and move to Austin, Texas.

JULY

AUGUST

SEPTEMBER

And for the not-so-savvy, Dubious Achievement awards



Dead again

To Jasmine Technologies Inc., which for two years in a row has managed to die a protracted death that left users in a support quandary.



Gag reflex

Jointly awarded to Prodigy and GEnie on-line services, for penalizing users for flexing their First Amendment rights.



Bait and switch

To Prodigy, for luring users by promising a flat monthly fee, then adding a surcharge on those sending "too many" messages.



So this is productivity

To groupware, which lets users automate group tasks more slowly than it ever took to perform the tasks by hand.



Heart of gold

To Apple, which laid off nearly 1,500 employees because it sold too many low-cost — and low-margin — Macs.



Savvy is as savvy does

To Claris Corp., which promised to be "first with the most for System 7," but so far hasn't managed to get savvy versions of MacWrite and other classics out the door.



Things we didn't know we needed

To Trash Master, from The HAND-Off Corp., which provides hierarchical menus and filters for managing the Mac's Trash.



Complicating the issue

To CE Software Inc.'s Tiles, an application that lets you launch files by clicking on icons.



MacWEEK's guide to computer jargon

Announced: Refers to product still in the early stage of development.

Beta: Refers to product still in the early stage of development.

Distributed processing: What participants in workgroup computing are supposed to be doing.

End-user scripting: Hopeful programmers' fantasy that, deep inside, users are just like them.

Groupware: Clever marketing ploy in which buying just one copy of a program gets you nothing.

Kaleida: Newly discovered twin of Pluto.

Multimedia: The concept of jaded computer executives who wish computers were more fun.

Object: Buzzword of the '90s. See also Groupware.

Open: Vaguely New Age term meaning "willing to agree to anything in public."

Pencentric: The results of letting programmers write what they want instead of what will sell.

Personal Information Manager: Code words for chaos.

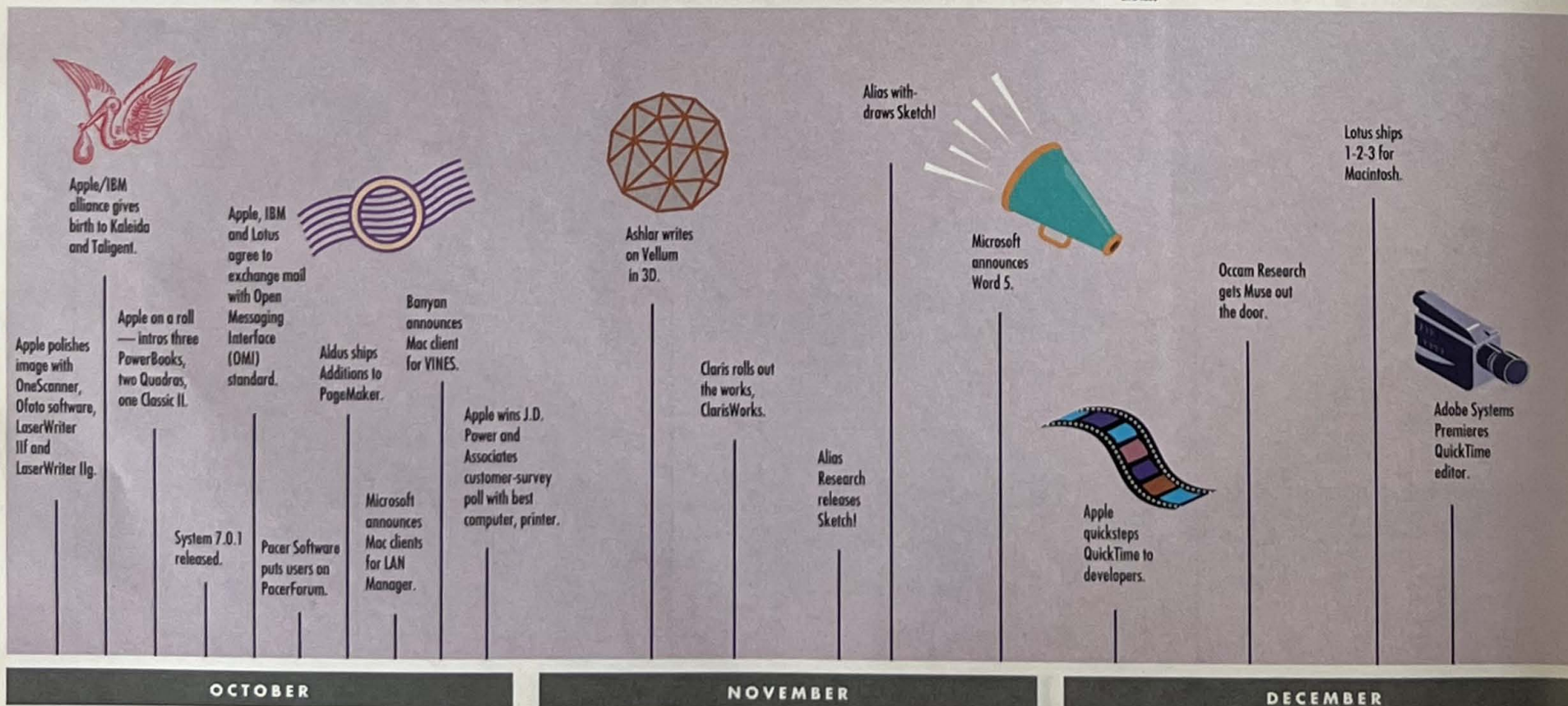
QuickTime: Two-step dance popularized by Bill "Bojangles" Robinson.

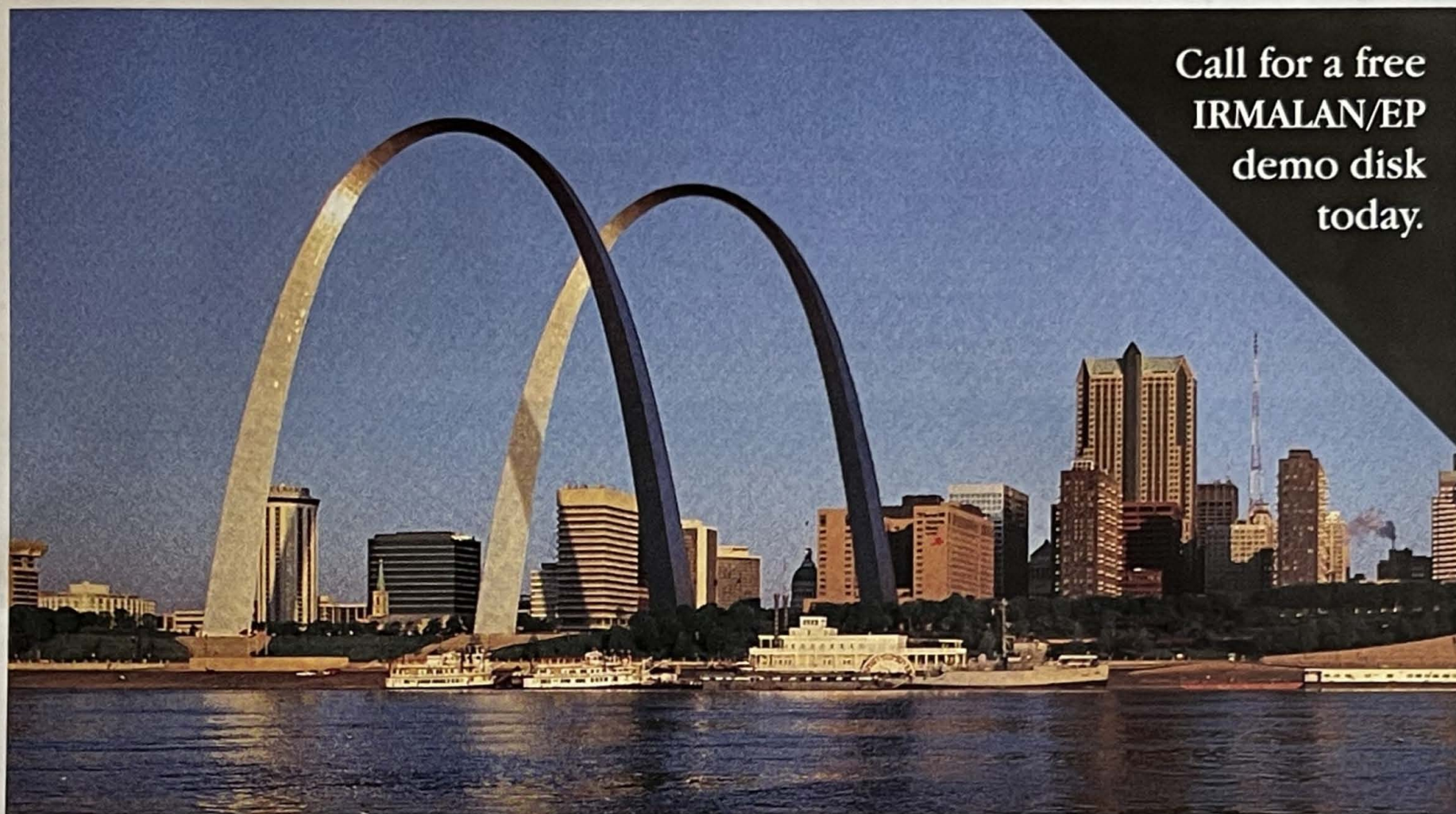
Shipped: Refers to product still in the early stage of development.

System 7: Secret plot to make your Macs run slower and your applications obsolete.

System 7-savvy: People in on the joke.

Taligent: That funny emblem Federation officers wear on Star Trek.





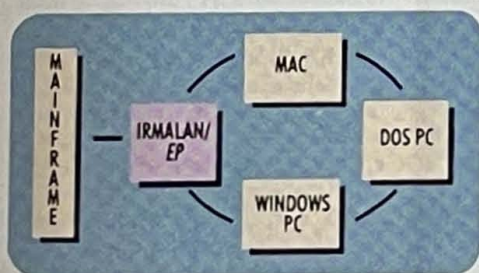
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With IRMALAN/EP 3270 gateway, you can support DOS, Mac and Windows clients with a single gateway.

3270 connectivity (IRMA™ WorkStation for Windows), we've developed IRMALAN/EP as the single superior gateway solution.

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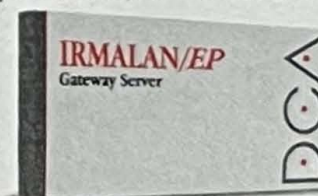
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A look back

From Page 24

1990, we concluded that finishing its new operating system without further delay was the most critical challenge Apple carried into the new year. The company met that challenge successfully, releasing System 7.0 on its (revised) schedule, in relatively bug-free form and with a new direct phone-support program to back it up.

The continuing transition to the new system has not been hassle-free. Apple's assur-

ances that System 7 would work on 2-Mbyte Macs turned out to be something of a joke. Current versions of most major programs proved compatible, but users found themselves compelled to update dozens of older applications, utilities and even their hard disk drivers. And delays in the release of a System 7-compatible version of certain key Apple and third-party programs, including A/UX, Pathworks, MacTCP, and the AppleShare and QuickMail servers, kept some organizations from migrating promptly to the new OS.

Still, System 7 has already brought an improved interface, access to additional real and virtual memory, and built-in file-sharing and outline-font technologies to more than 1 million users.

The System 7 innovations with the greatest potential significance, however, are in the area of interapplication communications — publish and subscribe and Apple events — and here progress has been slower than expected. Thousands of programs have earned official certification as System 7-savvy,

and scores have, to some extent, incorporated support for Apple events.

But how many users today actually take advantage of publish and subscribe, for instance, in their daily work? More than seven months after the release of the new system, users were still awaiting a word processor capable of the quintessential application of the technology: allowing them to subscribe to a chart or data published from their spreadsheet. The new style of computing some had anticipated from System 7 — a world of custom work environments made up of small, focused applications linked via Apple events and operating under script control — may yet materialize. But it didn't happen in 1991.

► **PowerBooks.** The success of Apple's new notebooks is less ambiguous. If their effect in 1991 was limited, that was primarily because, at least until recent weeks, users couldn't get their hands on the machines and on the extra memory and accessories needed to make them fully functional. Still, the mobile machines generated more excitement among Mac loyalists, as well as interest among DOS users, than perhaps any new Apple product since the Mac II.

► **Other innovations.** With the introduction of QuickTime, 1991 brought the world a suite of technologies that, at least in the view of some pundits and enthusiasts, will finally make multimedia a mass movement. But so far the masses have only been able to marvel at mini movies made by others.

Desktop publishing was perhaps overshadowed last year by newer and glitzier subjects, but it remained a bedrock application for the Mac, and several trends and developments over the 12 months — continuing declines in the cost of both standard and color printing, improved scanning and image-output tools, the release of PostScript Level II, and the introduction of Adobe's variable-weight Multiple Master fonts — are certain to give the market a lift in the next year.

► **Distribution and support.** The year just finished saw a continuing crisis in traditional distribution channels, highlighted by a wave of mergers, the near-collapse of Businessland and the rapid advance of direct marketers and superstores. Seeing the writing on the wall, Apple turned to CompUSA and other discount retailers, while gradually — too gradually, in the view of many users and managers — implementing direct support in the form of its free customer assistance center and System 7 and PowerBook hot lines, as well as fee-based programs.

► **Big Blue shocker.** The biggest news of the year was also the news with the least immediate effect on Mac users: Apple's far-reaching alliance with its former archrival for control of the desktop, IBM. The news left some Mac enthusiasts fearful that Apple had sold its soul, but others chose to hope that CEO John Sculley's rosy predictions — that the deal will bring a technological renaissance — will prove true.

At least initially, the July announcement of the alliance left some buyers puzzled about Apple's direction and confused by the proliferation of operating systems for its hardware. But with disclosure of some further details in October and the release of Apple's Blueprint for the Decade in November, the Mac community wound up the year with more information than it's ever had before about where Apple's headed.

Finally, in a fitting conclusion to a year that saw Apple lay the groundwork for further advances in the corporate market, 1991 will go down in history as the year that Lotus 1-2-3 finally made it to the Mac. □

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They laughed when I brought in my own database, but everyone's smiling now.

Okay, so maybe I'm not in MIS, but I grinned and loaded FoxBASE+/Mac.®

The next day, I showed them a sample of their PC inventory database with not just how much of anything we had, but with pictures showing exactly what it looked like.

I ran their dBASE sales analysis program (using a couple of new Mac screens I whipped out) as they watched FoxBASE+/Mac scream through the numbers.

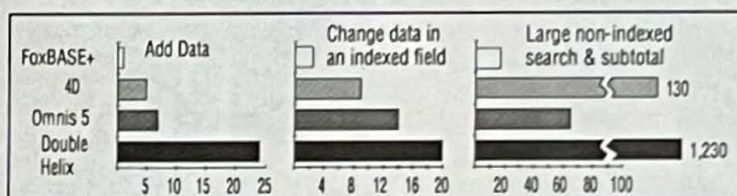
And then I showed them the kinds of reports they could get, using data stored in Fox or dBASE IV/III+ files on the PC.

You could have heard a pin drop.

Then they were all over me with questions, so I just handed them the FoxBASE+/Mac manuals and smiled.

Besides not being in MIS, I'm not a professional programmer, so you can tell how easy FoxBASE+/Mac is.

For the inventory system, I just used FoxBASE+/Mac to read the database files they had on the PC (it reads Fox and dBASE IV/III+ files directly). I added a memo field into which I cut and pasted pictures that our DTP department had for our customer literature. Then I used the MacDraw-like screen painter to create a great color Mac output screen.



As MacUser said, with FoxBASE+/Mac "data handling is extremely fast."

The sales analysis was easy, too. I had to create new screens but FoxBASE+/Mac ran the rest of the dBASE III+ program just fine. (It typically runs as much as 95% of standard FoxBASE+/PC and dBASE III+ code with no changes.)

And I built the reports I showed them from scratch. With no programming at all.

Around here, MIS has been pretty busy the last few weeks. They've hooked up Macs and PCs on an Ethernet network and our information and data processing systems are looking great.

They're building Hypercard-like applications I see people using all over the place.

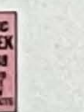
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And even the PC programmers are happy. I hear them talking about things like the great trace and debugging facilities, adding XCMDs and XFCNs, the dBASE-like programming language, System 7 compatibility, full file and record locking in the multi-user version, and how FoxBASE+/Mac is "so astoundingly fast for a Mac."

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A look ahead

From Page 24

"They really got their act together in 1991 and delivered some great products. And 1992 promises even more innovative products."

► **Low-cost color.** Possibly as early as this summer, Apple reportedly will start delivering more power in its mass-market Macs.

The company is expected to ship an updated LC, equipped with a 16-MHz 68030 processor. It also will ship a faster IIsi, which could be the first low-cost Macintosh with

Ethernet (see MacWEEK, Oct. 22, 1991).

Also expect Apple to offer a color Classic II in time for next Christmas. At slightly less than \$2,000, the new machine will feature a special chassis to hold its built-in, 9-inch color monitor.

► **New notebooks.** Apple reportedly will offer by fall a new PowerBook weighing less than 4 pounds, with a 25-MHz 68030 and backlit supertwist screen displaying 16 shades of gray. This new PowerBook will have a distinctive difference: no ports or floppy.

Instead, Apple will offer two docking stations that provide what the new notebook lacks (see MacWEEK, Dec. 3, 1991).

A new high-end PowerBook also is expected that will sport a high-speed '030 and Apple's first color active-matrix screen, sources said.

► **Powering up.** Apple plans to build two sequels for its successful Quadras, adding faster 68040s, built-in S-video output and a digital signal processor.

A step up for the IIsi also is in the works. It

should have features similar to the Quadra 700, including an '040 and built-in Ethernet.

► **Printers.** Sometime this spring Apple is expected to deliver its first RISC (reduced instruction set computing)-powered LaserWriter, the NTR (see MacWEEK, Nov. 19, 1991). This should be followed later in the year with Apple's first color printer.

► **Consumer electronics.** Apple wants to offer a handheld media player in time for Christmas. It also could deliver its first palmtop information device by then, although sources said the pen-based unit more likely will appear well after New Year's Day of 1993.

And look to Kaleida, one of the new Apple-IBM Corp. joint ventures, to fuel Apple's new media device. The venture is expected to deliver MediaScript, its combination QuickTime derivative and interactive scripting language, by year-end (see MacWEEK, Nov. 12, 1991).

► **Extensions.** Apple's customers may face a few changes themselves, having to pay for what previously was free. Apple's current plan is to sell system upgrades such as QuickTime and Open Collaboration Environment (OCE) through retailers.

And don't expect every new Macintosh to have every new system goody. A new Classic will not include QuickTime, for instance, and HyperCard probably will be unbundled in 1992.

► **Filling the gaps.** With Apple's product line a moving target, developers will have to be lighter on their feet.

As a result, you can expect to see many products this year that try to capitalize on QuickTime and OCE. QuickTime, for example, should be found in an array of products ranging from the obvious, such as MacroMind-Paracomp Inc.'s Director, to Claris Corp.'s MacDraw Pro.

And by year-end, some OCE-supporting word processors and spreadsheets should be able to send documents through a mail interface. OCE also holds great promise for groupware, allowing a number of users to work on a document simultaneously.

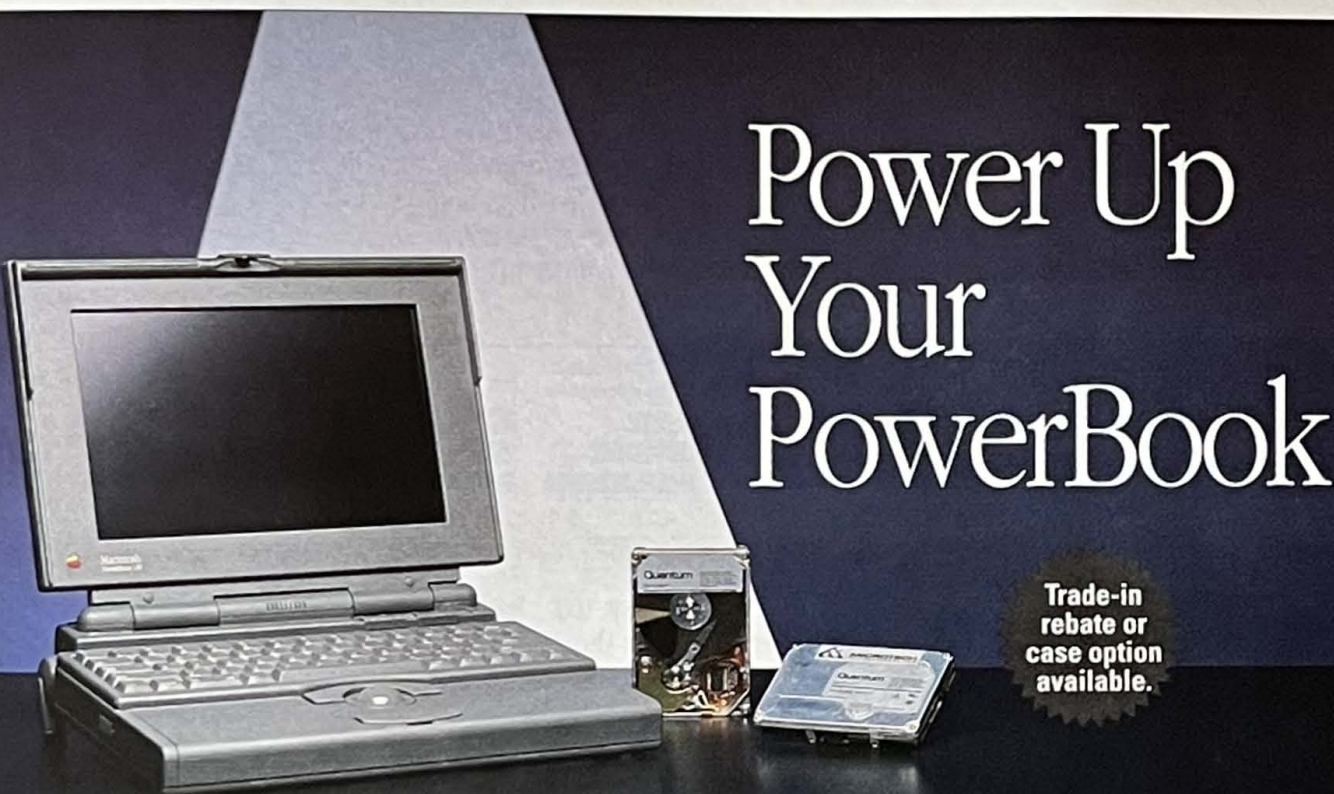
Probably the most rewarding area for third parties in 1992 will be hardware add-ons. This year we can expect to see tiny, high-capacity drives for the PowerBooks; integrated media controllers that help support QuickTime; and networking cards of all sorts.

► **Faster turnaround.** Time to market will become the key to third-party success. As Apple decreases its product-development cycle, developers will need to deliver new products more quickly.

This need for faster development along with the demand for more functional, leaner software could bring component programs into vogue in 1992. Such add-on programs should appeal to value-minded customers, who will appreciate the chance to buy only those features they need for their current software investment.

► **Blurring the line.** As Apple strives to differentiate its offerings, word processing, database and spreadsheet capabilities likely will become part of system software. Successful third parties will either build onto these capabilities or develop content, such as media titles and source data.

When you combine a new emphasis on lower prices, both for hardware and software, with this blurring between application and system software, the biggest change for the year may come down to attitude. Perhaps the word "value" will again be part of every developer's marketing vocabulary. □



Power Up Your PowerBook

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You've just purchased one of the most sought after notebook computers ever made—Apple's new PowerBook. You bought it for the freedom it affords you, but you're frustrated by its limitations. Although equipped with powerful System 7, the PowerBook's storage and memory configuration barely allows you to do anything beyond booting up.

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Reviews

► In Brief: XGator, QuadFlextra. See Page 39.
► The Year in Reviews. See Page 42.



COMPARISON

Talkin' about a Mac revolution

PowerBooks represent a big change for Mac computing, opening new doors as the first truly mobile Macs.

By Ric Ford

Like the original Macintosh II, the Mac PowerBooks represent a revolutionary change in Macintosh computing. The Mac II opened the door for new applications with its color and expanded performance capabilities, later extended by a large family of Macs. The PowerBooks are opening new doors as the first truly mobile Macs, and they will have far more impact than the Mac Portable.

In this review, we evaluate the PowerBook 100, Apple's slim, entry-

level laptop, and the PowerBook 140, the model aimed straight at the middle of this hot market. The Mac now competes head to head with DOS and Windows laptops free of handicaps in size or price.

Packaging and ports. The PowerBook 140 looks just like the more expensive PowerBook 170 (see MacWEEK, Nov. 12). Attractively sculpted, it is about the size and weight of a standard ream of paper. The computer fits easily into any briefcase, but its 7 pounds are a constant reminder of its presence.

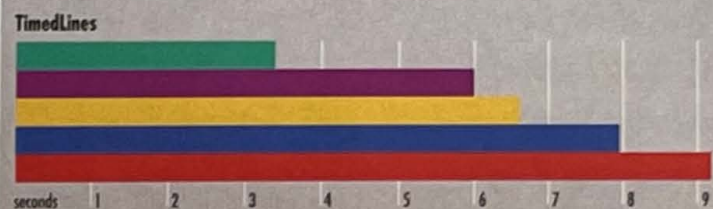
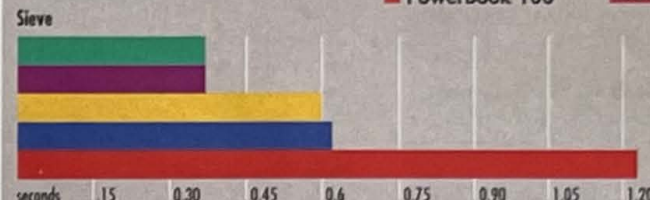
Connections for external devices include an Apple Desktop Bus port, a microphone input, monaural sound output (through a stereo plug), a special new SCSI connector, and modem and printer ports.

A SuperDrive floppy slot is positioned under the keyboard on the right side of the PowerBook 140, and a tiny hard disk is also tucked inside the case. Apple offers a

BENCHMARKS

PowerBook CPU and graphics performance
(All times in seconds, smaller is better)

■ Ili/cache
■ PowerBook 170
■ Classic II
■ PowerBook 140
■ PowerBook 100



Tests were performed under System 7 with standard memory settings and extensions turned off.

choice of either a 20- or 40-Mbyte drive manufactured by Conner Peripherals Inc.

The PowerBook 100 eliminates several features to trim weight and size. It is almost 2 pounds lighter and a little smaller in both height and depth. It lacks an internal floppy drive and a sound input and is

even missing an external modem port. An internal 2,400-baud fax and data modem, standard in the PowerBook 170, is a \$349 option for both the 100 and 140. (The printer port on the 100 can be used for an external modem when it is not being used for other purposes.) An

See PowerBooks, Page 39

SCORE CARD

Apple notebooks



Categories	PowerBook 100	PowerBook 140
Overall value	●	●
Performance	●	●
Features	●	●
Installation/configuration	●	●
Compatibility	●	●
Documentation/support	●	●
List price	\$2,299*	2,899**

● Excellent ● Very good ● Good
○ Average ○ Below average

*PowerBook 100 2/20 (2 Mbytes RAM, 20-Mbyte hard disk); \$2,499 with external SuperDrive.

**PowerBook 140 2/20, PowerBook 140 2/40, \$3,199; PowerBook 140 4/40, \$3,499.

DataClub 2.0 shares a wealth of information

Greater stability and System 7 compatibility are among the new features in this upgrade.

By Alexis Rosen

DataClub 2.0 is an upgrade to the distributed file server from International Business Software. It adds System 7 compatibility, greater stability, superb performance and a few other important new features to the previous version. Two separate DataClub products, Elite Version 2.0 and Classic Version 2.0, are now available. Their features are identical in all

respects, but their performance, intended users and prices differ significantly.

Users who wish to dedicate a machine to DataClub, as they have with AppleShare, will see better performance from the Elite version, while users looking to add file sharing alongside their other applications may prefer the less expensive and less de-

See DataClub, next page

ON BALANCE

Apple notebooks



The PowerBook 100 and 140 are Apple's first truly portable, affordable Macs. They are more-affordable alternatives to the high-end PowerBook 170. Power users will prefer the faster speed and better screen of the PowerBook 170, but its higher initial cost is even less of a bargain if you choose to upgrade Apple's bundled disk, RAM or fax modem with third-party products.

► **The PowerBook 100** is ideal for writers and others on a tight budget, in part because it runs System 6, which is less demanding of RAM and disk space. Disadvantages of the 100 include a reduced screen size, a slow 20-Mbyte disk and a less-capable 68000 processor.

► **The PowerBook 140** offers the best compromise in price, size and performance, and it should serve many buyers well. We strongly recommend the 4-Mbyte RAM, 40-Mbyte hard disk configuration, unless you plan to upgrade the disk and RAM with third-party products.

SCORE CARD

DataClub 2.0



Categories	Classic	Elite
Overall value	●	●
Performance	●	●
Features	●	●
Ease of use	●	●
Documentation/support	●	●
List price	\$395*	\$1,395**

● Excellent ● Very good ● Good
○ Average ○ Below average

*For three users; 10-user pack, \$795. **For one server.

ON BALANCE

DataClub 2.0 International Business Software



IBS has produced a very solid, heavily tested and professional package. Any software as critical as a file server requires a great deal of caution and we strongly suggest testing DataClub carefully before using it.

► We recommend that any organization with an AppleShare server on a network consider **DataClub Elite** carefully. With multiple servers sharing resources, it can significantly outperform AppleShare and other AppleShare substitutes.

► Smaller organizations might be better served by a simpler product such as allShare, but in many cases **DataClub Classic** will be an ideal choice. Performance will be dramatically increased when resources are found on local hard disks without going over the network.

DataClub

From previous page

manding DataClub Classic.

DataClub Elite achieves its performance boost by using more RAM for caching and more CPU time if it is running alongside other applications.

Elite's performance with multiple active clients degrades more slowly than AppleShare because of these techniques. Both products support DataClub's distributed server technology.

DataClub vs. AppleShare.

While we plan to use the performance of DataClub as a benchmark

DataClub Elite showed significant improvements over AppleShare. It offers every feature of AppleShare 2.0 and is far more powerful than any other AppleShare substitute.

against AppleShare 3.0 when it ships this quarter, we found DataClub Classic's performance similar to that of DataClub 1.0 (see MacWEEK, Jan. 15, 1991). In real-world testing, DataClub Elite showed a significant improvement over AppleShare, particularly as more users were added.

DataClub implements every feature of AppleShare 2.0.1 and is far more powerful than any other AppleShare substitute.

The Classic version provides respectable, non-dedicated file service for smaller networks, and the Elite version is the only credible Mac-based replacement for AppleShare in larger networks.

Features. In addition to supporting all of AppleShare's features, DataClub implements some of System 7's built-in file sharing.

The Can't Move, Rename or Delete folder attribute, in particular, is very useful. DataClub also can handle many more simultaneous users and open files than an AppleShare server — an important boon to database users.

DataClub is AFP (AppleTalk Filing Protocol)-compliant, so any software that wants to talk to

an AppleShare server, such as Farallon Computing Inc.'s PhoneNET Talk (formerly AppleShare PC), works with DataClub. Databases, such as Fox Software Inc.'s FoxBASE+/Mac or ACIUS Inc.'s 4th Dimension, which demand support for byte-range locking and other aspects of AFP's shared environment, work without a hitch. If you were to replace an AppleShare server with DataClub, most users would never know the difference.

Any DataClub server on the network can be designated as a "gateway." This server coordinates between non-DataClub Macs and the DataClub server machines to make data available.

Major differences. DataClub differs from AppleShare in three major ways: It does not insist on a dedicated Macintosh (though using one improves performance); it is much easier to administer than AppleShare, especially on larger networks; and, most important, it uses a distributed file system. DataClub's "location independence" allows many Macs to transparently contribute storage and processing to a single "virtual server" with which users interact. This scheme makes every server within a network zone appear as a single "logical volume" to users.

Data on this logical volume can reside on any Mac providing resources to DataClub.

While this is mostly transparent to the user, the benefits can include improved network performance, reduced retraining when adding servers, and simplified organization and backup of folders and files.

Fault tolerance. DataClub provides a higher degree of fault tolerance than AppleShare. If a program has a file open on an AppleShare server that crashes, the program may crash or be unable to save the file. Users running DataClub will never see the server crash — at worst, some files may become unavailable for as long as the machine on which they reside is down. Macs without the DataClub software won't see a server crash either, unless the DataClub gateway goes down.

Because the gateway Mac is the most likely machine to be stable (and perhaps dedicated, for this reason), it is not likely to crash frequently.

The managers' club. If you have experience with AppleShare Administrator software, you will be able to use DataClub Admin without opening the manuals. The two programs are visually and functionally identical; in fact, you'd have a tough time telling them

apart, if not for DataClub's extra features. DataClub Admin's interface, like AppleShare's, is good but not great.

DataClub Admin may administer a server from any Mac in the same zone that is running DataClub software (even if that Mac doesn't contribute resources to the network). In AppleShare, the administrator software must be run directly on the server; this is a major aggravation, especially at larger sites.

With DataClub, adding new servers, users or groups is easy. To add a server, just plug it in to the network, install the software and turn it on. It automatically "joins" your DataClub, picking up all users and groups.

Adding new users is just as simple. This feature operates only within a single zone, leaving lots of room for improvement, but it's far better than AppleShare.

The Admin application in DataClub Version 2.0 provides load statistics, which makes it much easier to place folders in the most efficient physical location. It would be nice if DataClub could figure this out by itself, but that would be a significant (and highly error-prone) task. The load-statistics display is a good compromise and better than nothing.

Using DataClub. In everyday use, DataClub looks just like an AppleShare server because only the "virtual server" is visible.

When new folders are created, DataClub can be told to put them on a specific disk, any dedicated server or any disk at all. For performance reasons, you would usually choose a disk attached directly to your Mac.

Either way, this option is set in the control panel, so you aren't constantly bothered by the choice. If you want to change a folder's location later, you can use the Finder's Get Info window.

You can set a number of options in the control panel that affect how your machine behaves with DataClub.

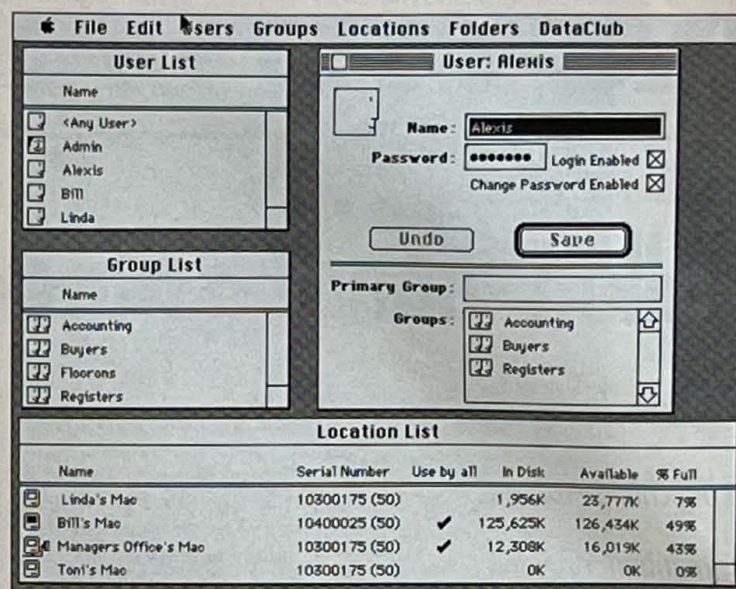
You can specify which of your disks, if any, you wish to contribute to DataClub's resources.

You can contribute from one or more disks but not let other users put new folders on your disk, which allows you to share files without letting other people consume storage on your disk.

International Business Software also includes a small application called LockScreen, which gives DataClub the biggest share of processing time possible.

Maintenance. Because DataClub servers are represented as one virtual server, backup is a trivial task: You can use any backup program exactly as if you were backing up AppleShare. However, for a backup to be complete, all machines contributing to DataClub must be turned on and available over the network.

Networks based on DataClub



The DataClub Admin application closely resembles AppleShare's administration software but also offers control over the distribution of virtual server resources.

Folders on RServer Disk					
97 Folders Total Size 139,889K					
Folder Name	Size	Local	Remote	Location	
□ Data Files	86,930K	36.3%	54.4%	HD315 on Bill's Mac	
□ Fox	275K	0%	0%	HD315 on Bill's Mac	
□ Sales	1,497K	0%	0%	Office Disk on Managers Office's Mac	
□ Feb-March Ink Catalog	0K	0%	0%	HD315 on Bill's Mac	
□ Catalog art	1,205K	0%	0%	HD315 on Bill's Mac	
□ CATALOG IN PAGES	2,059K	0%	0%	HD315 on Bill's Mac	
□ Ink logos	335K	0%	0%	HD315 on Bill's Mac	
□ Templates	215K	0%	0%	HD315 on Bill's Mac	
□ Word documents	230K	0%	0%	HD315 on Bill's Mac	
□ Video	10K	0%	0%	HD315 on Bill's Mac	
□ FoxBase J	0K	0%	0%	Office Disk on Managers Office's Mac	
□ Network Disk	8,197K	20.7%	2.7%	Office Disk on Managers Office's Mac	
□ Shared Databases	117K	2.8%	0.0%	Office Disk on Managers Office's Mac	
□ TFiles	94K	0.3%	0%	Office Disk on Managers Office's Mac	

DataClub keeps folders that are physically located on many Macs in a single virtual server. This has a number of performance advantages over AppleShare servers.

are more failure-resistant than those based on AppleShare. If a DataClub server crashes, the only stations affected will be ones that were using data on that physical Mac.

Performance. For a single server with a single client, DataClub Classic running on an otherwise quiescent Mac is about the same speed as other non-dedicated servers, perhaps a third slower than AppleShare 2.0.1.

A DataClub Elite server is a little bit faster than AppleShare 2.0.1, at the expense of a megabyte of RAM.

But on a real network with many clients, DataClub does not degrade as quickly as AppleShare or other servers, especially if some of the clients are running DataClub (even if those other Macintoshes aren't contributing resources to the virtual server).

In practice, on any real-world network, and given equivalent dedicated hardware, DataClub Elite should significantly outperform any other Mac-based file server.

On networks where most files are documents that can be kept on the disks of their most frequent users, DataClub (even DataClub Classic) can be many times faster than AppleShare.

With slow LocalTalk networks, the benefits are even more pronounced, simply because the network is not used.

DataClub will run on any Mac

from the Plus on up. The minimum recommended configuration is 2.5 Mbytes for a non-dedicated server. It runs smoothly with Ethernet and LocalTalk, as well as with all other networking software we've tried, such as Apple's AppleTalk Internet Router.

It also runs well under System 7 but not with A/UX.

Conclusions. DataClub is cheaper than AppleShare, but small networks with only a few Macs or very light usage might be better served by simpler software, such as System 7's file sharing or EveryWare Development Corp.'s allShare.

We caution users about relying on any server running on a non-dedicated machine, and this will apply equally to AppleShare 3.0 when it becomes available. For critical applications, Macs should be dedicated to file sharing.

Because file-sharing software is so critical, and many things can go wrong on any particular network, we do not recommend installing a new server without thoroughly testing it at your specific site. But in our experience, DataClub runs quickly and well, and for heavy-duty networks in particular, it looks like a very good bet.

International Business Software is at 1270 Oakmead Parkway, Suite 314, Sunnyvale, Calif. 94086-4034. Phone (408) 522-8000; fax (408) 720-0289. □

SYSTEM 7 COMPATIBILITY

DataClub 2.0

Balloon help	Yes
TrueType	n/a
Publish and subscribe	n/a
Apple events	n/a
32-bit addressing*	Yes

*According to vendor.

PowerBooks

From Page 37

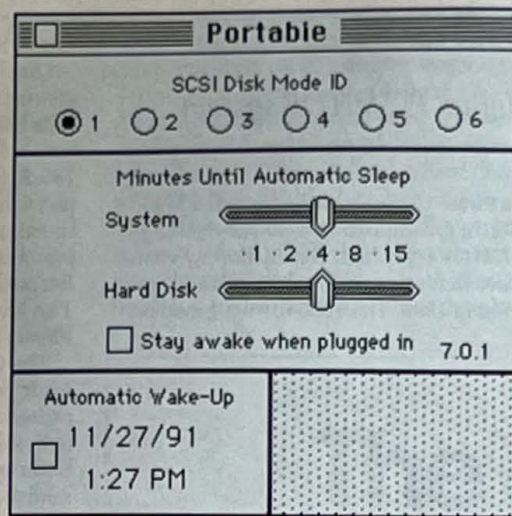
optional, external floppy drive has a special plug to match the socket on the PowerBook 100.

The PowerBook 140 has a power switch that turns the computer on. The switch also turns power off, although using the Finder's Shut Down command is recommended. The 100 is turned on by pressing a key on the keyboard and is turned off with software, but it has a special Storage switch to conserve power when it is off for long periods.

Convenient reset and interrupt switches are on the side of the 100, but the 140's awkward equivalents can be operated only with the help of a paper clip.

AppleTalk Remote Access software, a HyperCard disk, System 7.0.1 and a Macintosh Basics tour disk are bundled in the packages. The PowerBook 140 also includes an external microphone.

Processors, memory, power. The PowerBook 100 and the 140 both operate at the same clock speed



The Portable control panel configures the SCSI ID of the PowerBook 100's internal disk for access from other CPUs via a special adapter cable. Sleep modes can be disabled automatically when external power is available.

— 16 MHz — but the 140 has a 68030 processor, while the 100 is based on the older 68000. This difference makes the 140 about twice as fast as the 100 at overall processing and as much as four times faster at crunching numbers, although neither computer has a math coprocessor. (The PowerBook 170, which features a math coprocessor and a

25-MHz 68030, is significantly faster than the 140.)

The choice of a 68000 processor for the PowerBook 100 creates several other limitations in comparison with its bigger brothers. The 100 lacks support for virtual memory, 32-bit addressing and 32-bit QuickDraw. Virtual memory can be run on the PowerBook 140, but its demands on the disk make it appropriate only when the computer is running on external power.

Two Mbytes of pseudo-static RAM are soldered to the motherboards of these computers, and an extra 2 Mbytes are available preinstalled in the RAM expansion connector if you buy the PowerBook 140 4/40 model.

The PowerBook 100 is sold only in a 2/20 configuration, but Apple offers a 2-Mbyte RAM upgrade (for a total of 4 Mbytes) at \$399.

The maximum amount of RAM for each of the PowerBooks is 8 Mbytes, but Apple does not currently sell any model with more than 4 Mbytes.

Power-consuming hard disk usage can be minimized with the help of two options in the Memory control panel: a RAM disk and the disk cache.

Contents of the RAM disk are retained across shutdowns on the PowerBook 100, but the 140 loses anything in the RAM disk when it is shut off.

All the PowerBooks offer a sleep mode, which saves power and rests the screen. Touching a key wakes the computer from its sleep and returns it to the state in which it was left.

Input and output. Compared with desktop models, notebook computers inevitably suffer from ergonomic compromises in the design of screens, keyboards and input devices. Apple, however, has done a remarkably good job of minimizing those compromises in the PowerBooks.

The 100 and 140 share backlit, supertwist LCD screen technology and a 640-by-400-pixel resolution. The 100's screen is about 7.5 inches wide, almost an inch narrower than the 140's screen. Images on the 100's screen are displayed at 85 dpi, and both fonts and graphics are noticeably smaller in size in comparison with other Mac screens. The pixels on the 140 screen are

Macs displayed on an X terminal or workstation is limited only by the constraints of X Window.

XGator requires Apple's MacTCP, which provides the protocol stack required to connect to TCP/IP, the standard for Unix networking. Ethernet is the recommended network media, although XGator can connect a LocalTalk Mac network to Unix if the Macs use a TCP/IP-capable router, such as the GatorBox or Fast-Path from Shiva Corp. of Cambridge, Mass. Performance considerations make Ethernet the only choice for heavy XGator users. XGator supports System 7 but requires Version 1.1 of MacTCP to take advantage of virtual memory and 32-bit addressing. On the Unix side, X11 releases 3 and 4 are supported.

The most obvious limitation of XGator is that it does not support color. In fact, launching the application with color enabled on the Mac causes XGator to quit, after informing the user that color machines can be operated only when the Monitors icon on the control panel is set to black and white.

At least one other product, Planet X from InterCon Systems Corp. of Herndon, Va., performs functions similar to XGator. Both products allow the user to exchange Clipboard information between the Mac and X Window client, but Planet X has the advantage of offering color support. While this review does not assess the capabilities of Planet X, with recent changes both products are now the same price.

XGator is an unimposing product, arriving with a booklet-size user manual. The setup instructions are adequate, but just barely. The software consists of the application program and a system extension. Beyond the routine installation instructions and a menu reference section, users are on their own. Explanation of the Unix

See XGator, next page

IN BRIEF



- XGator
- QuadFlextra

XGator

Makes its resources available to Unix users

A variety of utilities and full-blown applications make connections between Macintosh and Unix worlds possible. Some facilitate file transfer; some smooth out the differences between disparate protocols; and some bring the Mac desktop to workstations from Sun Microsystems Inc., Digital Equipment Corp., IBM Corp. and others. Cayman Systems Inc.'s XGator falls into the latter category.

The \$295 XGator, from the makers of the popular GatorBox router, resides on the Mac, making its resources and applications available to users of Unix workstations running X Window System, a standard interface for most Unix workstations.

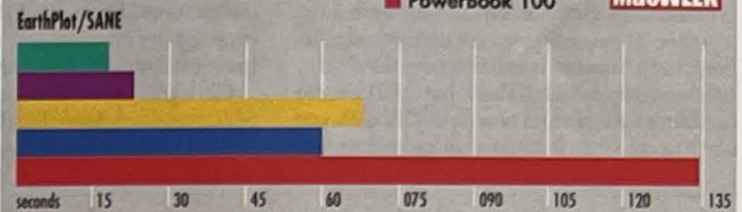
XGator is a rewrite of XPort, previously marketed by Perfect Products of Papillon, Neb. XPort users can receive free upgrades to XGator from Cayman.

Bringing up the Mac. Once installed on the Mac, XGator allows the Unix user to bring up a Macintosh screen in an X Window. All Mac features and applications are then accessible over the network. Unix users gain access to Macintosh data and software, and can administer a network of Macs, each in its own X Window. The number of

BENCHMARKS

PowerBook math performance

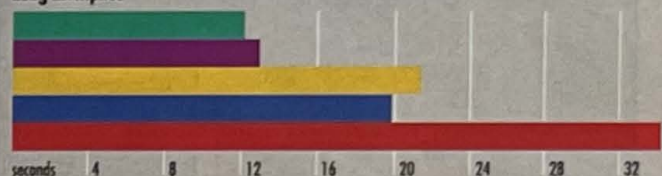
(All times in seconds; smaller is better)



Long adds



Long multiplies



Tests were performed under System 7.0.1 with standard memory settings and extensions turned off. Long adds and multiplies were tested with the application ArithTimer.

BENCHMARKS

PowerBook disk performance

(Transfer rates in Mbyte/sec.; larger is better)



Tests were performed under System 7 with standard memory settings and extensions turned off, using the TimeDrive application. The SB-1300 is a high-speed drive sold by MicroNet Inc. The Hammer300 is an older, medium-speed drive from FWB Inc.

about the same size as on Apple's 12-inch monochrome monitor.

The screens are surprisingly good in contrast and brightness. We found that the backlighting was superfluous in bright sunlight, but it is generally needed under artificial lighting. Turning it down saves power and battery life.

The active-matrix LCD screen of the high-end PowerBook 170 eliminates two problems of the screens in these models: ghosting and persistence.

Ghosting is a phenomenon where images in one part of the screen affect other parts of the screen. It can be quite noticeable in the Finder, where window lines may bleed into plain gray areas of the desktop. The

ghost images can be minimized by choosing a whitish background for the desktop and by adjusting the screen controls carefully. The brightness and contrast controls of the PowerBook 100 have a convenient rotary design. The 140 uses sliders, which are harder to adjust precisely.

Persistence is another characteristic of the screen technology. Images take a moment to disappear when the screen changes, so that fast-scrolling text and animations blur. The cursor may disappear, or "submarine," as it is moved. The screen controls have no effect on this problem, but it is not severe enough to be a major handicap.

The PowerBook 100's trackball is
See PowerBooks, Page 41

XGator

From previous page

side of an XGator connection is particularly sparse. This is partly because of the difference in commands and nomenclature used by different vendors, but it is not fully justified since X Window is the common thread binding them together. The user is given a straightforward, if brief, explanation of how to log onto the XGator-equipped Macintosh, but little else. No troubleshooting help is provided. This is important to a cross-platform product and is missed.

XGator is a good idea, and its price is reasonable. However, its presentation in the documentation makes it appear to be an afterthought for Cayman, which has made a name for itself in Unix-Mac connectivity. By adding color support and improving the documentation, Cayman could have another fine connectivity product. But as it stands, it is functional, though unremarkable.

Cayman Systems Inc. is at 26 Landsdowne St., Cambridge, Mass. 02139. Phone (617) 494-1999; fax (617) 494-9470. — *By Shelly Brisbin*

QuadFlextra

Original PC VHDF system
now available for the Mac

Quadram Corp. recently shipped a Mac version of QuadFlextra, its 20-Mbyte, 3.5-inch VHDF (very high density floppy) system that was first released for IBM PCs and compatibles in 1990. The \$895 drive is based on

patented technology from Brier Technology Inc. of San Jose, Calif.

Quadram claims a 35-millisecond average access time and a sustained transfer rate of 1.25-Mbytes per second for the unit. Our tests reflect those speeds. Duplicating a 766-Kbyte file took 17.9 seconds under System 6 and 39 seconds under System 7. These speeds are much faster than standard floppies, but noticeably slower than SyQuest- or Bernoulli-based removable cartridge systems. This level of performance makes the QuadFlextra most suitable as a backup device.

The QuadFlextra's speed and capacity are made possible by a special two-tier tracking process that creates two magnetic layers on both sides of the disk. According to Brier, the lower layer, or positioning tier, contains thousands of tracks used by the drive head for positioning. The upper surface, or data tier, is for recording actual data.

This unique media has the advantage of costing less per megabyte than competing technologies. The floppies, which are currently only available directly from Quadram, are available for \$25 each in lots of 10. That translates into about 80 cents per megabyte compared with \$1.40 per megabyte based on mail-order pricing for SyQuest 88 cartridges.

The drive performed as expected in our tests, including complete compatibility with Dantz Development Corp.'s DiskFit 2.0, but there were a few unpleasant surprises. Unlike other cartridge drives, the QuadFlextra floppy can be physically removed from the drive without ejecting or unmounting it via software. On the Mac, this is a virtual recipe for data loss and disk corruption.

Missing documentation. Our biggest complaint and most lasting impression of this product is its documentation, or rather, the lack thereof. The documentation for the hardware consists of an 8.5-by-11-inch piece of paper that is referred to as the Quick Start Guide. It covers most of the fundamental but omits others, including the vital issue of SCSI termination. As it turns out, termination is internal and not user-accessible, so avoiding the subject entirely in the "documentation" has a certain logic to it.

The software for the unit is a licensed version of DiskMaker from Golden Triangle Computers Inc. of San Diego. While vastly more inclusive than the Quadram documentation, the DiskMaker Users' Guide lacks some important information, such as which versions of the Mac system are supported, and is poorly written and produced. In addition, there is no mention anywhere of the QuadFlextra in this volume.

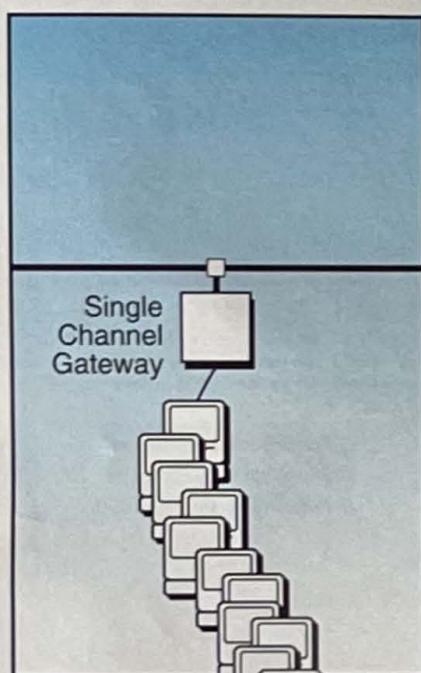
Shortcomings in documentation can be compensated by good technical support. But in the case of this product, the number provided by Quadram in the Quick Start Guide leads us into a very unproductive voice-mail maze. After finally acquiring the proper telephone number, we waited more than 24 hours for a call back.

Smart Mac users are content to let new products get tested in the DOS world. In this case, Quadram — a respected company with a long history — has dropped the ball. Quadram has little understanding of what it takes to introduce a product in the Mac market. Several people involved in the project, however, assured us that the product's glaring shortcomings would be addressed shortly.

When the QuadFlextra is shipped with the necessary documentation, it could serve a useful role in the Mac office based on its low per-megabyte media costs and the inherent durability of the media design. Until then we do not recommend it.

Quadram Corp. is at 1 Quad Way, Norcross, Ga. 30093. Phone (404) 923-6666; fax (404) 564-5528. — *By Dale Coleman*

THEM



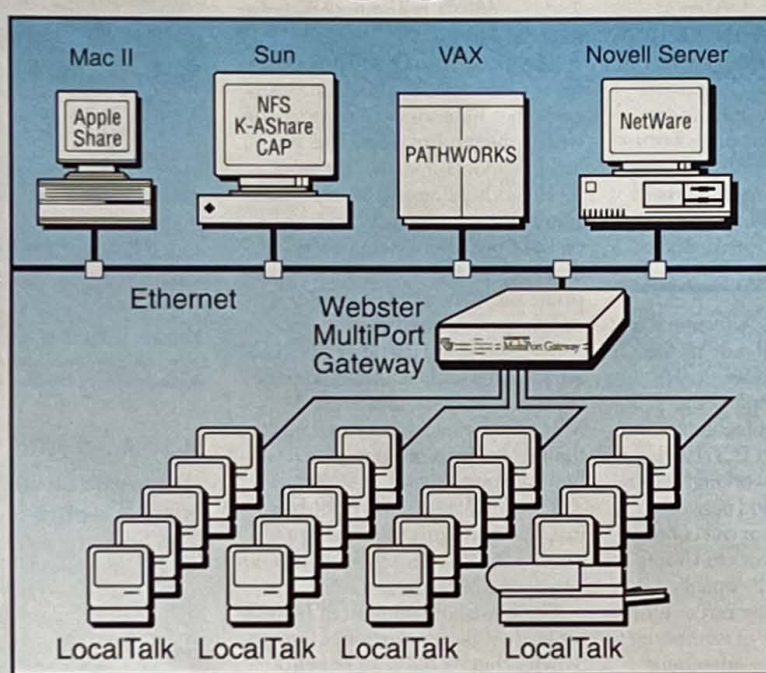
Facts about poor LocalTalk performance!

- ↪ Star Controllers won't improve LocalTalk network performance.
- ↪ Single channel gateways can only support a small number of LocalTalk devices before network performance suffers.
- ↪ Small interconnected LocalTalk networks are faster than one large network.

The LocalTalk performance solution!

Webster's MultiPort Gateway is the solution for maximum LocalTalk performance. Segment your overloaded LocalTalk into small interconnected networks, allowing the MultiPort Gateway to evenly distribute network traffic. Keep AppleTalk off the Ethernet backbone by routing the network traffic internally among the four LocalTalk ports. Maximum

US



LocalTalk performance can be achieved without the expense of rewiring your Macintosh network with Ethernet.

As well as improving LocalTalk performance, the MultiPort Gateway is a high performance multiprotocol gateway supporting AppleTalk, TCP/IP, DECnet and SNMP protocols. Macintosh users gain four high speed links to UNIX, VMS and Novell environments.

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PowerBooks

From Page 39

smaller than that of the PowerBook 140 and 170. We found it a little harder to use smoothly than the bigger ones. The trackballs are effective temporary substitutes for a mouse, but they are too different to serve as true replacements.

Keyboards on the PowerBooks are virtually identical. Key spacing is standard for letter keys, but extra keys such as Enter, Option and Escape are crammed tightly into the small rectangular layout.

Key pressure and travel are comparable to desktop keyboards, but the feel is different, with a more abrupt click. The design keeps typing noise at a reduced level, but we found ourselves making more typing errors. Overall, the keyboard is a good one for its primary purpose, and the built-in wrist rest is a welcome design innovation.

Performance. In processing, the PowerBook 140 is in the same range as the Mac LC and the Classic II. The 100 is about half the speed of the 140 but substantially faster than a plain Classic. The 170 is 50 percent to 100 percent faster than the 140 in general and much faster at doing floating-point mathematics (see benchmarks, Page 37).

The only surprise in the performance of the PowerBooks is the poor results turned in by the 20-Mbyte Conner hard disk. It is the slowest Winchester drive we can remember testing. The 40-Mbyte drive is faster than the 20-Mbyte model but slower than most popular external hard drives.

Both the 100 and 140 are capable of handling drives with higher performance than their internal drives provide, although their SCSI throughput falls short of that achieved by high-end desktop Macs.

Another aspect of performance for notebook computers is battery life. Although it depends on many factors, we found we could work for two to three hours without recharging. An extra, \$99 battery is a good investment for lengthy sessions away from power outlets.

Compatibility and customer support.

There is one major compatibility issue with the PowerBooks — System 7. Only the PowerBook 100 can run System 6, a distinct advantage with limited disk and RAM configurations.

We used both System 6.0.5 and System 6.0.7 successfully on the 100, but we had to obtain an updated Portable control panel (Version 1.3), because the screen brightness control did not work properly without it. The PowerBook 140 and 170 work only with System 7.0.1.

SCSI disks can be connected to PowerBooks only via an extra, \$49 HDI-30 SCSI cable, which Apple does not include in the package. You will probably want a \$40 SCSI cable extender, too, because the HDI-30 cable is a short 18 inches. The PowerBook 100's internal disk can be connected to other CPUs via the \$49 HDI-30 SCSI Disk Adapter and a normal SCSI cable at the other end.

We encountered occasional freezes and crashes with the PowerBook 140, but there were no consistent problems with the hardware or software during the testing.

The PowerBook 100 would not start up from a high-speed hard disk that worked with the PowerBook 140, a likely incompatibility between the fast disk's interleave ratio and the 100's speed limitations.

Apple provides a one-year warranty and offers a new toll-free support line. Another innovative new program allows buyers to return PowerBooks directly to Apple for repairs.

Conclusions. All the PowerBooks are excellent Macs for their price and size. Their com-

promises are small enough that they can serve as your only Mac system, and they make fine complements to existing desktop systems.

If you can afford the PowerBook 170, it is the notebook of choice. Its extra performance and high-quality screen are distinct advantages. But the 170 comes with a hard disk, RAM configuration and modem that power users may want to upgrade, and the cost of replacing these bundled items is substantial.

At the other end of the scale, the PowerBook 100 is ideal for writers on a tight bud-

get who appreciate its compactness and do not mind its reduced screen size, its small, slow hard disk and the awkward external floppy drive.

The 100's ability to run System 6 represents a substantial cost savings, because System 6 works effectively in small memory and disk configurations.

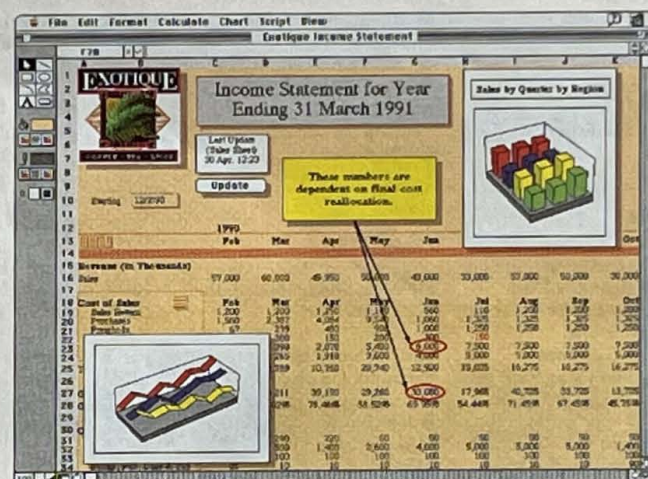
What we would really like to see is a PowerBook with the 170's screen, the 100's screen controls and programmer's keys, and the 140's price and internals. Apple could

keep the fax modem, internal hard drives and expansion RAM to maintain the appropriate manufacturing cost.

For now, the best compromise overall is the PowerBook 140 4/40. It is powerful enough to handle a vast assortment of Mac tasks, small enough to be truly mobile and affordably priced.

If you need more disk or more RAM than Apple offers, get the 2/20 configuration and use the \$600 you'll save to help defray the cost of third-party upgrades. □

The only thing missing from our new spreadsheet is the learning curve.

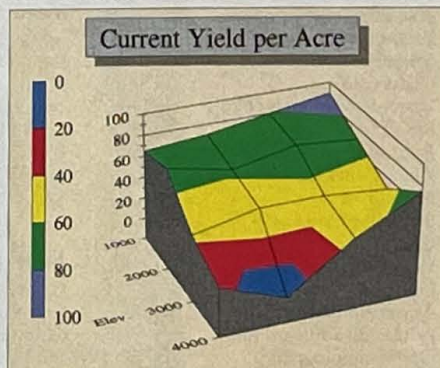


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Making your own charts and graphs with new Clarix Resolve is unbelievably easy. Select one of 25 chart types.

The System 7 Spreadsheet

Introducing Clarix Resolve.



The new Clarix® Resolve™ spreadsheet lets spreadsheet power flow to your fingertips freely and intuitively, for the first time. It utilizes interfaces, tools and commands familiar to anyone who's ever used a Macintosh.

Clarix Resolve is packed with clever, interactive features that help people quickly get their footing. Like context-sensitive help. Automatic scripting. One-step charting. Instant zoom-in and zoom-out. Even a built-in spell checker.

But lurking just beneath the surface are enough tricks to inspire any power user. 149 built-in functions to help solve any business problem. 25 kinds of charts and graphs to excite the most jaded audience. Elegant, built-in database functions so you can swiftly access your data.

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The Year in Reviews

The following is a list of all products reviewed in MacWEEK in 1991, together with the dates the reviews appeared. A tab-delimited text version of this list is available as RVW91.TXT in Download Library 1 of the MacWEEK Forum on Zmac [GO ZMC:MACWEEK].

Accounting & Financial Analysis

Heizer Tax Series	Heizer Software	2/12
MacInTax	ChipSoft Inc. (formerly Softview Inc.)	2/12
Market Analyzer	Dow Jones & Co.	2/5
Market Manager Plus 2.03	Dow Jones & Co.	2/5
Quicken 3.0	Intuit Inc.	10/8
TurboTax	ChipSoft Inc.	2/12
Wall Street Investor	Pro Plus Software Inc.	2/5
WealthBuilder	Reality Technologies Ltd.	2/5

Animation & 3-D Design

DynaPerspective	Dynaware USA Inc.	9/17
ElectricImage	Electric Image Inc.	6/4
form-Z 1.02	autodesk Inc.	5/21
Infini-D	Specular International	6/25
MacroMind Three-D	MacroMind-Paracomp Inc.	7/30
ModelShop II	MacroMind-Paracomp Inc.	9/17
Ray Dream Designer	Ray Dream Inc.	2/19
ShowPlace	Pixar	10/8
StrataVision 3d	Strata Inc.	9/17
SwivelArt	MacroMind-Paracomp Inc.	11/5
Virtus Walkthrough	Virtus Corp.	4/16

CD-ROM Drives

CMS PCD-600	CMS Enhancements Inc.	7/30
Hitachi CDR-1750S	Hitachi Home Electronics Inc.	7/30
Liberty 115CD	Liberty Systems Inc.	7/30
Magic CD-ROM	MacProducts USA	7/30
NEC CDR-73	NEC Technologies Inc.	7/30
Procom HiPerformance		
CD-ROM	Procom Technology Inc.	7/30
Relax Vista CD-ROM	Relax Technology Inc.	7/30
Toshiba TXM-330-1E1-MAC	Toshiba Amer. Info. Systems Inc.	7/30

Communications & Networking

AppleTalk Remote Access	Apple	12/10
BridgePort	Extended Systems Inc.	5/7
Comstation Four	PSI Inc.	11/19
DataClub	Int'l. Business Software	1/15
FastPath 5	Shiva Corp.	8/13
GatorBox CS	Cayman Systems Inc.	8/13
GraceLAN 1.1	TechWorks Inc.	3/12
GraceLAN 2.0	TechWorks Inc.	7/30
KeyServer 2.3.7	Sassafras Software Inc.	4/16
LocalPeek	The AG Group	3/26
LocalSwitch	Tribe Computer Works Inc.	6/11
Net Distributor	Trik Inc.	12/3
Net Watchman	The AG Group	7/16
NetMinder LocalTalk	Neon Software Inc.	3/26
NetModem/E	Shiva Corp.	11/12
netOctopus	MacVONK•USA	11/12
NetUpdater 1.08	MDG Computer Services	5/21
NetWare for Macintosh 3.0	Novell Inc.	10/15
Network SuperVisor	CSG Technologies Inc.	4/9
PacerTerm	Pacer Software Inc.	8/20
Print Central	Compumation Inc.	11/19
QuickMail 2.5	CE Software Inc.	12/3
Quota 2.0	Proteus Technology	4/16
Radar	Sonic Systems Inc.	6/4
RouterCheck	Neon Software Inc.	10/22
Sidewinder EasyServer	ShirtPocket Software	8/20
STATUS*Mac	ON Technology Inc. (formerly Pharos Technologies Inc.)	6/25
Teleport A300	Global Village Comm. Inc.	2/26

Computer-Aided Design

ArchiCAD 4.0	Graphisoft	10/15
Architron II	UNIC Inc.	10/15
DesignCAD 3.0	DesignCAD Inc.	6/25
Vellum 2.0	Ashlar Inc.	3/12

Computers & CPU Accelerators

Outbound Laptop	Outbound Systems Inc.	9/24
PowerBook 170	Apple	11/12
PowerCache	DayStar Digital Inc.	9/17
Quadra 900	Apple	11/19
Radius Rocket	Radius Inc.	6/25
TokaMac LC	Fusion Data Systems Inc.	6/25
TokaMac SX	Fusion Data Systems Inc.	8/13

Cross-Platform Products

Access PC	Insignia Solutions Inc.	4/16
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DOS Mounter	Dayna Communications Inc.	4/16
MachTen 1.0.1	Tenon Microsystems Inc.	10/8
Orange 386	Orange Micro Inc.	5/14
RunPC	Argosy Software Inc.	10/1
SoftPC Classic	Insignia Solutions Inc.	4/16

Databases & Forms Processing

4D Calc	ACIUS Inc.	8/20
4D Write	ACIUS Inc.	8/20
ClearAccess 1.2	Fairfield Software Inc.	1/8
Data Prism	Brio Technology Inc.	1/8
DB/Write	Metropolis Software Inc.	11/5
dbase IV RunTime	Ashton-Tate Corp.	8/6
Fast Forms 2.0	Power Up Software Corp.	3/12
GQL 2.1	Andyne Computing Ltd.	1/8
ifX Forms Designer	ChipSoft Inc. (formerly Softview Inc.)	3/12
Informed	Shana Corp.	3/12
MitemView	Mitem Corp.	5/7
nuBASE	New Era Software Group	9/24
Oracle Card for Mac	Oracle Corp.	11/5
Oracle Server	Oracle Corp.	8/6
P.INK SQL 1.04	MacVONK•USA	2/19
Panorama II	ProVUE Development Corp.	8/6
SmartForms	Claris Corp.	3/12

Desktop Publishing

CheckList 2.0	ElseWare Corp.	10/29
CIS•Gallery	Barneyscan Corp.	3/26
FrameMaker	Frame Technology Corp.	8/6
Mariah 1.0.4	Symmetry Software Corp.	3/26
Multi-Ad Search	Multi-Ad Services Inc.	3/26
Page Director	Managing Editor Software Systems Inc.	1/29
Personal Press	Silicon Beach Software	3/12
PrePrint 1.5	Aldus Corp.	8/20
Ventura Publisher	Ventura Software Inc.	1/8
XStyle	Em Software Inc.	10/29

Games

3 in Three	Inline Design	12/17
Decisive Battles of the American Civil War	Strategic Studies Group Inc.	12/17
Earthquest Explores Ecology	Earthquest Inc.	12/17
Eco-Adventures in the Rainforest	Chariot Software Group	12/17
Fun Bundle Value Pack	Casady & Greene Inc.	12/17
Glider 4.0	Casady & Greene Inc.	12/17
KidPix	Broderbund Software Inc.	12/17
More After Dark Volume One	Berkeley Systems Inc.	12/17
Oregon Trail for the Mac	MECC	12/17
PGA Tour Golf	Electronic Arts Inc.	12/17
Rise of the Dragon	Sierra On-Line Inc.	12/17
RoboSport	Maxis	12/17
SimAnt	Maxis	12/17
Spaceship Warlock	Reactor Inc.	12/17
Spectre	Velocity Development Corp.	12/17
Splat'ers	Bullseye Software Inc.	12/17
The Playroom	Broderbund Software Inc.	12/17
Tristan	Amtex Software Corp.	12/17

General Productivity, Groupware & PIMs

Active Memory	ASD Software Inc.	8/20
Address Book Plus	Power Up Software Corp.	6/25
At Your Service	Bright Star Technology Inc.	7/30
Carbon Copy Mac 2.0	Microcom Inc.	7/30
ClarisWorks	Claris Corp.	12/3
DayMaker	Pastel Development Corp.	11/12
Docu-Mentor	3-Soft Co.	4/30
Dynodex 2.0	Portfolio Systems Inc.	6/25
Fair Witness	Chena Software Inc.	9/10
For the Record	Nolo Press	2/5
GreatWorks	Symantec Corp.	7/30
HyperCard 2.0	Claris Corp.	2/26
Inspiration 3.0	Ceres Software Inc.	8/6
Instant Update	ON Technology Inc.	8/6
INTouch 1.0	Advanced Software Inc.	5/21
INTouch 1.1	Advanced Software Inc.	12/3
Meeting Maker	ON Technology Inc.	5/14
PacerForum	Pacer Software Inc.	11/19
QuickDEX II	Casady & Greene Inc.	8/6
Rendezvous-Plus	PMC Telesystems Inc.	3/5
Schedule+	Microsoft Corp.	8/13
ThoughtPattern	BananaFish Software Inc.	4/30
Timbuktu 4.0	Farallon Computing Inc.	6/18
TouchBASE	After Hours Software	5/21
TouchBASE 2.0	After Hours Software	12/3
VersionMaster	AStar Technologies Inc.	7/16
WordPerfect Office	WordPerfect Corp.	9/17

Graphics & Presentation

Canvas 3.0	Deneba Software	9/17
Color It!	MicroFrontier Inc.	12/10
Colorsqueeze	Eastman Kodak Co.	4/23

ColorStudio 1.5		
Digital Darkroom 2.0		
EnVision		
EPS Exchange		
FreeHand 3.0		
Image Compressor		

ImpressIt		
InfoLynx		
JAG		
MacDraw Pro		
Michael's Draw		
Monet		
Oasis		
OverView		
Painter		
Photoshop 2.0		
PictureBook+		
PicturePress		
PicturePress 2.0		
PicturePress Accelerator		
PixelPaint		
Presenting Now		
Shapes		
Streamline 2.0		
SuperPaint 3.0		

Mapping

Contours Pro	Graphsoft Inc.	7/30
Descartes	Intermap Inc.	2/19
GeoQuery 2.0	GeoQuery Corp.	2/5
GEOvista	Newton Technology Inc.	5/21
MapInfo	MapInfo Corp.	2/19
MapMaker 4.5	Strategic Mapping Inc.	2/5

Mass Storage

Bernoulli Transportable 90	Iomega Corp.	8/6
CTS-4 PlusM	Transitional Technology Inc.	2/19
DataPak 88	Mass Microsystems Inc.	6/4
DATAVault and QTBackup	Tecmar Inc.	10/22
GCC UltraDrive 50R	GCC Technologies Inc.	7/16
Infinity 88 Turbo	PLI	6/4
Mass Micro DataPak MO	Mass Microsystems Inc.	3/19
MicroNet CMO-1	MicroNet Technology Inc.	3/19
MicroTech R50	Microtech International	7/16
MR-90	MicroNet Technology Inc.	6/4
Optima MiniPak 8000	Optima Technology Corp.	10/29
Pinnacle REO-130	Pinnacle Micro Inc.	3/19
Pinnacle REO-650	Pinnacle Micro Inc.	3/19
QuickSCSI	PLI	10/29
RAM PowerCard	DayStar Digital Inc.	10/8
SiliconDisk Pro 1	ATTO Technology Inc.	1/22

Mathematical Software

Maple 4.2.1	Brooks/Cole Publishing Co.	9/10
Mathematica 2.0	Wolfram Research Inc.	9/10
MathWriter 2.0	Brooks/Cole Publishing Co.	5/21
Theorist 1.11	Prescience Corp.	9/10

Miscellaneous Hardware

Little Mouse	Mouse Systems Corp.	4/16
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Monitors & Display Cards

Apple 8•24 GC	Apple	1/8
Lapis DisplayServer	Lapis Technologies Inc.	8/13
Mobius 030		
OnePage Display	Mobius Technologies Inc.	3/19
Pivot for built-in video	Radius Inc.	3/5
Radius DirectColor/GX	Radius Inc.	1/8
RasterOps Accelerator	RasterOps Corp.	1/8
Spectrum/24 PDQ	SuperMac Technology	1/8

Multimedia Hardware

ColorBoard 364	RasterOps Corp.	4/30
ColorSnap 32+	Computer Friends Inc.	4/30
ComputerEyes/Pro	Digital Vision Inc.	4/30
PC-VCR	NEC Technologies Inc.	7/16
QuickImage 24	Mass Microsystems Inc.	4/30
QuickView Studio	E-Machines Inc.	10/1
RadiusTV	Radius Inc.	1/8
RasterOps 24STV	RasterOps Corp.	8/13
Video F/X	Digital F/X Inc.	4/9
Video Toaster	NewTek Inc.	4/23

Multimedia Software

ADDmotion	Motion Works Inc.	4/16
Animation Stand	Linker Systems Inc.	1/8
Animation Works	Gold Disk Inc.	4/16
Automeia	Digidesign Inc.	1/22
FilmMaker	MacroMind-Paracomp Inc.	1/8
MacroMind Director 3.0	MacroMind-Paracomp Inc.	7/30
MacroMind Windows Player	MacroMind-Paracomp Inc.	7/30

MediaMaker	MacroMind-Paracomp Inc.	3/26
Performer	Mark of the Unicorn Inc.	1/15
Pro4	Passport Designs Inc.	1/15
Read My Lips	Praxitel Inc.	5/7
Vision	Opcode Systems Inc.	1/15

Organizational Tools

Acta 7	Symmetry Corp.	10/29
Org Plus	Banner Blue Software Inc.	1/8
TopDown	Kaetron Software Corp.	9/10

Printers & Output Devices

Address Express	Tidemark Corp.	8/20
BLP Elite	GCC Technologies Inc.	6/11
ColorFast	GCC Technologies Inc.	6/18
ColorMaster Plus	CalComp Inc.	8/6
LabelWriter II	CoStar Corp.	11/5
LaserJet III	Hewlett-Packard Co.	8/6
LaserMAX 1000	LaserMAX Systems	2/12
LaserWriter IIfx	Apple	11/19
LaserWriter IIg	Apple	11/19
LZR 960	Dataproducts Corp.	10/8
NewGen TurboPS/480	NewGen Systems Corp.	2/12
Personal LaserWriter LS	Apple	4/9
RealTech Laser	Software & Hardware That Fits	10/8
Smart Label Printer Plus	Seiko Instruments Inc.	7/16
Spectra*Star Model 430	General Parametrics Corp.	10/15
StyleWriter	Apple	3/26

Project Management

EPlanner 2.0	Foundation Solutions Inc.	10/8
Microsoft Project	Microsoft Corp.	8/6
Schedule Publisher 3.0	Advanced Management Solutions Inc.	12/3

Reference Works

American Heritage Dictionary	Houghton Mifflin Co.	4/9
Little System 7 Book	Peachpit Press Inc.	8/6
Macintosh Bible		
Guide to System 7	Goldstein & Blair	8/6
System 7 Book	Ventana Press Inc.	8/6

Scanning & OCR

Chinon DS-3000 scanner	Chinon America Inc.	8/6
Microtek ScanMaker	Microtek Lab Inc.	7/30
OneScanner	Apple	11/12
Read-It! 3.0	Olduvai Corp.	9/10
ReadRight	OCR Systems Inc.	6/11
ScanJet IIc	Hewlett-Packard Co.	11/5
WordScan Plus	Calera Recognition Systems Inc.	9/10

Spreadsheets, Numeric & Graphing Tools

1 Shot Worksheet	Baseline Publishing Inc.	4/9
CA-Cricket Graph	Computer Associates International Inc.	1/8
Crystal Ball 2.0	Market Engineering	5/21
DeltaGraph 1.5	DeltaPoint Inc.	1/8
diGmatic	Famous Engineer Brand Software	6/18
Evolver 1.1	Axcélis Inc.	3/19
Excel 3.0	Microsoft Corp.	5/21
FlexTrace	Tree Star Inc.	3/19
GraphMaster	Visual Business Systems Inc.	3/5
JMP 2.0	SAS Institute Inc.	10/22
KaleidaGraph	Synergy Software	1/8
MacGraphX	Bravo Technologies Inc.	1/8
MarketPlace Business	MarketPlace Information Corp.	1/22
Minitab	Minitab Inc.	10/15
PowerMacros	Individual Software Inc.	6/25
Resolve	Clariss Corp.	9/10
@Risk	Palisade Corp.	8/13
Spyglass Dicer	Spyglass Inc.	1/15
Spyglass Format	Spyglass Inc.	1/15

Typographic Software

Effects Specialist	Postcraft International Inc.	5/14
FontMonger	Ares Software Corp.	6/11
Fontographer 3.3	Altsys Corp.	12/10
FontStudio 2.0	Letraset	7/16
LetraStudio	Letraset	1/8
Metamorphosis	Altsys Corp.	6/11
TypeAlign	Adobe Systems Inc.	1/8
TypeStyler	Broderbund Software Inc.	1/8

Utilities

Calc+	Abbott Systems Inc.	10/1
Capture 4.0	Mainstay	8/13
Compact Pro	Bill Goodman	5/14
Diamond 5.3	Sextant Corp.	5/14
DiskDoubler 3.2	Salient Software Inc.	5/14
DiskDoubler with DoubleUp board		
DiskFit 2.0	Sigma Designs Inc.	5/14
DynoPage	SuperMac Technology	3/5
ETO	Portfolio Systems Inc.	6/4
FolderBolt	Apple	1/29
Help!	Kent Marsh Ltd.	6/25
INIT Manager	Teknosys Inc.	10/22
LapLink Mac 3.0	Baseline Publishing Inc.	1/8
Mac-to-Mac 1.1.0	Traveling Software Inc.	4/30
MacTools Deluxe 1.1	Caravelle Networks Corp.	4/30
	Central Point Software Inc.	4/16
MasterFinder	Tactic Software Inc.	6/18
MODE32	Connectix Corp.	7/16
Mr. File	Softways	6/18
Network DiskFit	SuperMac Technology	3/5
Now Utilities 3.0	Now Software Inc.	9/24
On Location 2.0	ON Technology Inc.	12/10
QuickTools	Advanced Software Inc.	10/1
SAM 3.0	Symantec Corp.	5/7
Send Express 2.0.1	Gizmo Technologies	4/30
Stuffit Deluxe 2.01	Aladdin Systems Inc.	5/14
SuperDisk	Alysis Software Corp.	6/25
THINK Reference	Symantec Corp.	10/15
Tiles	CE Software Inc.	12/10
Virex 3.1	Microcom Inc.	4/2
XLink	CEL Software Inc.	9/10

Word Processing

Correct Grammar	Lifetree Software Inc.	3/12
EndNote Plus	Niles & Associates Inc.	4/16
Taste	DeltaPoint Inc.	4/30
Thunder 7	Baseline Publishing Inc.	3/19
WordPerfect 2.0	WordPerfect Corp.	2/19

Tower Upgrade Path For The Mac IIfx

Sixty Eight Thousand, Inc. announces an upgrade path for frustrated Mac IIfx owners stranded without an avenue to 68040 technology. Mac IIfx owners can protect their investment and step up to the only serious Macintosh tower workstation on the market: the Dash 30fx.



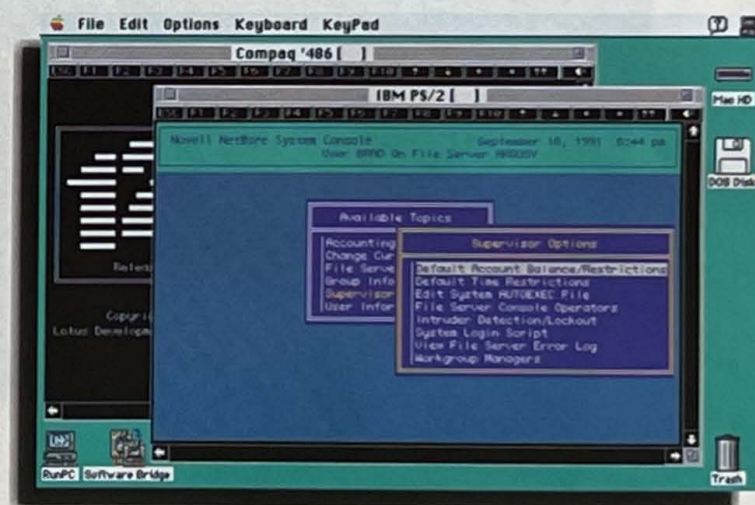
At half the price of a Quadra, the upgrade includes:

- 50MHz 68030
- 100% software compatible
- More reliability than 040
- 2.5 times more storage (up to 10 gigabytes)
- 400 watt power supply
- Filtered cooling system
- Expansion to multiple processors: e.g. 33MHz 68040 & RISC

Sixty Eight Thousand, Inc.

160 Technology Circle Scotts Valley, CA 95066 (408) 438-1777

RunPC Surpasses SoftPC!



RunPC lets Mac users connect to a PC to run DOS programs. Programs run at full speed on the PC, but are viewed and controlled by the Mac. RunPC supports '286, '386, and '486, CGA, EGA and VGA graphics, and extended/expanded memory. Access PC expansion cards and share peripherals. Requires a minimum 200k.

Includes Argosy's Software Bridge/Mac for file transfer and document translation - over 800 translation options- and our MountPC to mount DOS disks in your Mac's SuperDrive. RunPC/Network allows any one of 10 Macs to connect to a PC via AppleTalk network or modem. RunPC/Remote allows a single Mac to connect via modem or the included serial cable.

Argosy Software, Inc.

113 Spring Street, 5th Fl. New York, NY 10012 (212) 274-1199

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Using Aldus FreeHand and the pressure-sensitive Wacom stylus, you can create natural-looking pen and brush strokes, like the ones on the lead horse.



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With the winning team of Aldus FreeHand® 3.1 and Wacom's pressure-sensitive tablet, your illustrations will pull ahead of the pack. Aldus FreeHand linked to the Wacom stylus works and feels just like a pen or brush. With it, create those graceful thick and thin strokes you used to have to create click by click.

Race on over to the Aldus booth (#807) at Macworld, watch our demo, and you could walk away with a free copy of Aldus FreeHand 3.1 and a Wacom Tablet. We'll give away the bundle every hour on the hour—a \$1,290 value!

Ask at the booth about the special Macworld price for the bundle. Or call 1-800-685-3542 for a free self-running demo or working model.



Illustration by Jeff Tull, Fearless Designs.

PRODUCT WATCH

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Distinguishing CAD from traditional design

Defining CAD isn't easy, as programs considered 'CAD' include basic 2-D drawing tools as well as complex 3-D visualization, modeling and rendering systems.

By Linda Jacobson

Because CAD helps professionals from civil engineers to technical illustrators to landscapers, it can be difficult to distinguish a "CAD" program from a 3-D modeling program or an advanced drawing program.

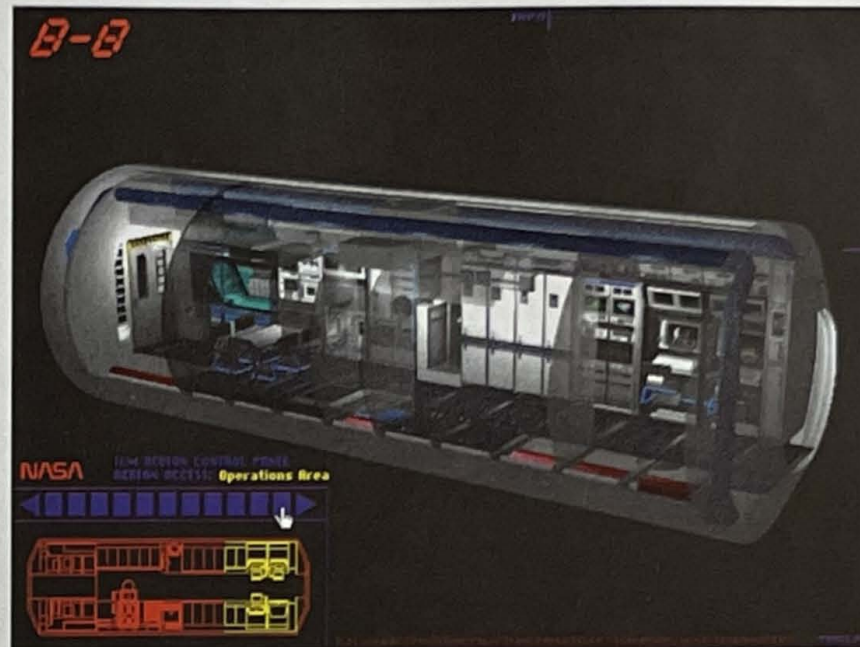
CAD software is a precision drawing program that expedites the design process by providing versatility and automation during initial design and subsequent revision processes.

To architects, CAD is integrated architectural design software that helps generate 2-D and 3-D views and produces dimensioned working drawings, cross sections and materials lists.

To the product designer who's masterminding a line of scooters, CAD includes wireframe- and surface-modeling features that enable quick changes in one scooter style to automatically and precisely alter part specs for other styles.

Truly CAD. All CAD programs provide the same basic tools and abilities. These include primitives (drawing elements such as lines, arcs and circles); snap-to options (which bring objects into alignment and constrain lines and angles); layers; symbol libraries; auto-dimensions (the automatic creation of an object's scales and dimensions); and other tools for precision design.

Sophisticated CAD packages incorporate parametric modeling, which creates bidirectional linking between an object and its dimensioning. For example, if a designer inputs new measure-



Chipp Walters, co-owner of the industrial design firm Design Edge of Austin, Texas, created this "Lunarbase" moon habitat for NASA using Claris CAD and Super 3D. Rendering was done using the Electric Image Animation System.

ments for a scooter's handlebar, the program automatically resizes the scooter design and places a new handlebar to match the altered dimensions.

This encourages rough sketches of ideas, leaving accurate sizing work to the program. It also facilitates design and modification of product parts with identical shapes but different sizes.

Architectural CAD. The Mac is increasingly popular in architectural circles. "Architects highly regard Claris CAD, because it takes full advantage of the Mac interface," said Ed Forrest, a civil engineer in Fountain Hills, Ariz., who edits the 16-year-old A-E-C Automation Newsletter. "Other CAD programs typically were written for DOS machines, so they're not as easy to learn."

Martin Ramsay's Ceath Co. in Berea, Ky., helps businesses employ new technologies. As a CAD consultant, Ramsay often recommends ArchiCAD from Graphisoft. "[Graphisoft] did a good job of thinking like an architect," Ramsay said. "Tell ArchiCAD you want a 6-inch wall, draw a line, and it puts in shading and hatch marks, pastes in windows from its library and then generates your drawings."

CAD for mechanical design.

Mechanical designers typically need dimensioned 2-D engineering drawings and shaded 3-D perspectives. Popular 2-D CAD programs include Claris CAD and PowerDraw 3.0 from Engineered Software, while Autodesk Inc.'s AutoCAD for Macintosh and Ashlar Inc.'s Vellum 3D are often used for 3-D CAD.

Some designers choose to combine tools, culling from 2-D programs (such as Claris CAD, Innovative Data Design Inc.'s

MacDraft, Generic CADD from Autodesk Retail Products and Graphsoft Inc.'s Blueprint) and 3-D modeling packages (such as MacroMind-Paracomp Inc.'s Swivel 3D Professional or Specular International's Infini-D).

Yet not all mechanical engineers need 3-D, including those at San Francisco's Design Engineering Services. They work in 2-D on Claris CAD to design plumbing, HVAC and other mechanical systems, and, like architects, appreciate Claris CAD's intuitive interface.

"Once the engineer sits down with the CAD system for schematic development and lays out the equipment, duct runs and plumbing, we're well on our way to having a complete set of construction documents," said Richard Ehrenberg, principal for Design Engineering Services.

3-D CAD. Three-dimensional CAD comprises three types of CAD applications: wireframe, surface and solid. The most ubiquitous is wireframe, which shows the skeletal framework of an object.

General-purpose CAD programs that handle wireframes include AutoCAD, Graphsoft MiniCad+, MicroStation Mac from Intergraph Corp. and Computervision Corp.'s VersaCAD/Macintosh 4.0, among others.

Surface modeling helps display objects with complex irregular surfaces. Solid modeling shows a 3-D object and its inner workings (an apple cut in half to reveal its core).

Non-CAD modeling programs.

Concept modelers, such as MacroMind-Paracomp's Swivel 3D, Silicon Beach's (a subsidiary of Aldus Corp.) Super 3D and Alias Research Inc.'s Alias Upfront, are a vital part of the early design process, in which many different ideas can be quickly explored and discarded before using a CAD program to create precision drawings.

Chipp Walters, who co-owns the industrial design firm Design Edge in Austin, Texas, uses these concept modelers to quickly rough out projects. "It takes a lot less time to model something with one of those than with a full-blown CAD program," Walters said.

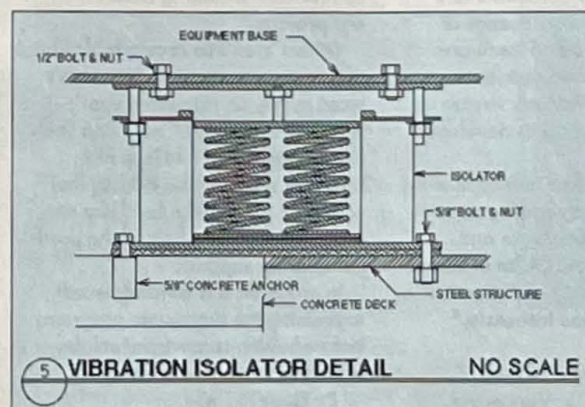
The industrial designers at Design Edge use several 2-D CAD programs, primarily Claris CAD, for documentation and creating templates to import into Super 3D, Visual Information Development Inc.'s Presenter Professional and Electric Image Inc.'s high-end 3-D Electric Image Animation System.

After designing NASA's "Lunar-

See CAD, next page

PriceWatch CAD SOFTWARE

Item	List price	Street price	Source
ASHLAR INC. Vellum 2.10	\$1,995	\$799	MacAdam San Francisco
AUTODESK RETAIL PRODUCTS Generic CADD 1.0	\$595	\$399.99	Egghead Software Beaverton, Ore.
CLARIS CORP. Claris CAD 2.0	\$899	\$618	ComputerLand Augusta, Ga.
DESIGNCAD INC. DesignCAD 2D/3D Macintosh 3.0	\$699	\$422	Connecting Point Indianapolis



Richard Ehrenberg, principal for Design Engineering Services, created this section of an industrial plumbing system using Claris CAD.

Stacking up HyperCard add-ons

Externals stretch stacks' utility

By Steve Michel

Many dedicated programmers view Claris Corp.'s HyperCard as a concrete foundation for creating custom software applications. By adding either commercial or self-developed cards to an existing stack, it's possible to develop a highly efficient program tailored to individual needs.

But the program shouldn't be viewed as an "as is" package. Those familiar with HyperCard often experience "hyper-slowdown," usually a result of excessive stored data. Also, many areas of the Macintosh architecture, including color, the Macintosh Toolbox and increased processing speed, lie beyond the reach of HyperCard.

To correct this situation, third-party developers have created a wide range of externals available to do nearly anything with HyperCard.

Developers can add new capabilities to the program with HyperCard's most innovative features — external commands (XCMDs) and external functions (XFCNs).

Most commercially available HyperCard utilities are implemented as externals, and there are plenty of available tools allowing users to create their own.

Revving the engine. Increasing speed is the major reason for using externals. Although scripts written in HyperCard's programming language, HyperTalk, are compiled in HyperCard 2.0 or greater, precompiled code is still faster.

Each time a handler, the basic unit of HyperTalk programming, is executed, it is compiled in memory before running. This works well when running a few short handlers, but running numerous, long handlers can present a problem. In addition, HyperTalk lacks speed accessing data in areas such as global variables or fields because its routines are generalized.

Operations that are reused frequently in a stack should compile relevant handlers into XCMDs or XFCNs.

Ron Therrien, president of InfoTech Plus, a Wayne, Pa., consulting firm, compiles his codes with Heizer Software's CompileIt!. "Using standard HyperCard, we had one routine that took 35 to 45 minutes to compare up to 1,000 items," Therrien said.

Therrien rewrote the routine in CompileIt!, changing the code logic. Using HyperTalk's commands are time-consuming, according to Therrien. "If you are referring to line 300 of a global, it has to count each of those lines," he said.

"I rewrote it to keep the starting address each time using pointers,"

Therrien said, referring to the CompileIt! mechanisms used to record the location of data. The new routine now compares the same amount of items in less than five minutes.

Using CompileIt!'s debugger, Therrien can "find the callbacks and fix them," he said, referring to routines such as data conversion that the external passes back to HyperCard.

For Macintosh-to-mainframe connectivity, Therrien prefers Mitem Corp.'s MitemView along with Heizer's Dialoger Professional. "I have eight people coding on one application," he said. "We don't use HyperCard for the interface at all."

The data game. Managing large amounts of data often presents a problem. Greg Tjosvold of Polar 7 Enterprises in Vancouver, British Columbia, created a HyperCard-based membership-management system for the Vancouver Public Aquarium to handle a database of 90,000 members.

Using Graphic User Interfaces Inc.'s FileFlex, the system can now manage names and addresses for 30,000 member families as well as each individual within those families.

"The original HyperCard-only database was over 10 Mbytes, and searches were very slow," said Tjosvold, adding that with FileFlex those searches are now an order of magnitude faster.

According to Tjosvold, there are benefits to keeping data in database format. FoxBASE+/Mac from Fox Software Inc. handles complex queries and prints better reports than HyperCard, he said.

"For example, using HyperCard alone [to create] the membership summary report was an overnight task," Tjosvold said. "Using a HyperCard/FoxBASE combination, the same report could be produced in under five minutes."

Matchmaking, moving data.

Jack Carney, the administrator of the department of urology at the University of Washington Medical Center in Seattle, records all office procedures in HyperCard.

Carney matches them against two sets of standard procedure codes with a stack of about 1,500 cards — each with 60 fields. The much shorter development time using HyperCard is a definite payoff, Carney said.

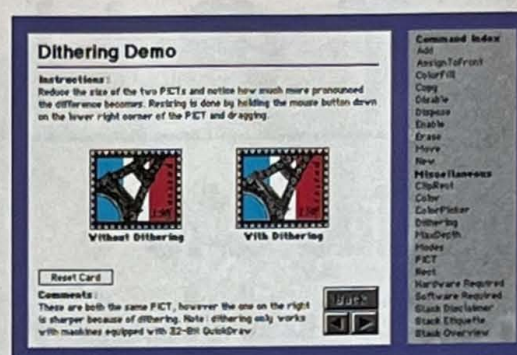
However, HyperCard's efficiency doesn't span all jobs. Carney uses Cyan's Peacock when moving data to and from HyperCard and other programs such as Microsoft Excel. "A lot of our billing offices get information from a mainframe," Carney said. "I use Peacock to build a stack to validate that billing information against my records."

British Columbia: "Externals by XNet and Frederic Rinaldi in particular are so widely used and tested to death that I have always felt comfortable including them in our projects."

Others aren't so comfortable about the shareware avenue. "We don't want to rely on [those avenues]; we've been burned," said Ron Therrien, president of InfoTech Plus, based in Wayne, Pa., adding that when utilities collide, he'd like one company standing behind the product offering support.

In any case, it is certainly worth examining the shareware programs before buying commercial utilities or before writing your own.

— By Steve Michel



Improved reporting. Nine to Five Software Inc.'s Reports 2.0 adds powerful, flexible and interactive reporting tools to HyperCard that allow users to print complex reports, a more efficient option than transferring data to other programs or HyperCard 2.0's reporting feature.

"Reports was able to mimic exactly our accounting form, including rules, typefaces, everything," said John Mika, systems manager of the Chicago Tribune advertising department.

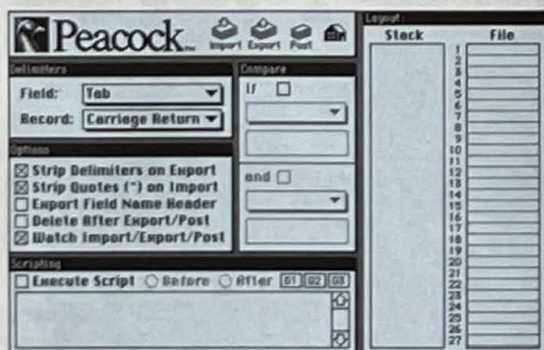
With Reports' interactive Views feature, Mika built an electronic call book for the Tribune's ad sales staff, which manages client contacts and facilitates time manage-

ment. "I can update and make changes in the view itself without exiting to write code," Mika said.

Mika also uses Nine to Five's Letters 2.0, which includes an add-in word processor and mail merge for HyperCard stacks. According to Mika, Letters 2.0 saves having to purchase extra copies of a dedicated word processing program and integrates letter writing into the HyperCard stack without forcing an export of data.

For serious HyperCard programmers, these third-party add-ons are valuable tools. While HyperCard can't do everything, these utilities should enhance the most demanding HyperCard applications. □

Cyan's Peacock is a utility that enables users to move text between HyperCard and a variety of other applications.



Going the shareware route

Many useful HyperCard utilities aren't commercial products but are available through shareware and freeware channels. The external library of CompuServe's MACHYPER forum lists dozens of various shareware and freeware externals. Apple also distributes scores of useful externals written by Frederic Rinaldi on its developer CD-ROMs.

John Mika, systems manager of the Chicago Tribune advertising department, praises the freeware and shareware channels. "A lot of things I've used for HyperCard I've gotten from shareware and freeware," said Mika.

Said Greg Tjosvold of Polar 7 Enterprises, based in Vancouver,

ColorizeHC XCMD from Bungdabba Productions is a freeware HyperCard utility that lets programmers add color to HyperCard stacks. ColorizeHC XCMD is available from user groups and on Zmac, Ziff-Davis Publishing's on-line service. Type GO ZMC:DOWNLOAD and look in Library 6 for COLORZ.SEA.

CAD

From previous page

base" moon habitat, Design Edge is developing a Mars habitat using Electric Image and Claris CAD. "For conceptual design of the Mars habitat, we do 3-D models, using mostly Electric Image for rendering," Walters said. "We draw cross sections with Claris CAD but can't really view the interiors until we do final renderings."

Presenting CAD. There are a number of presentation products that enable drafters to speed up the client approval process by creating 3-D animations and real-time navigation through a design. While ideal for quick conceptualization, these programs can't produce the requisite blueprints and schematics.

DynaWare USA Inc.'s Dyna-Perspective lets you draw in three orthogonal views while simultaneously watching a 3-D model "grow" in a fourth view; it also supports lifelike rendering.

Virtus WalkThrough, the 3-D designer and simulator from Virtus Corp., lets you visualize spatial relationships in real time and create conceptual designs of buildings.

Forrest considers Virtus WalkThrough and Dyna-Perspective CAD products "because civil engineers design buildings and railroad tracks, so we need to visualize big things. Software packages that let us visualize in three dimensions and walk through the design have become part of our CAD world."

While there is still a confusing variety of products available that claim to be CAD, in the end using Mac-based CAD products can help speed up the design process. □

Product Info

ALIAS RESEARCH INC.
Alias Upfront: \$895
110 Richmond St. E., Toronto, Ontario
M5C 1P1, Canada
Phone (416) 362-9181; fax (416) 362-0630

ASHLAR INC.
Vellum 2.10: \$1,995; **Vellum 3D:** \$2,495 (\$2,245 until Jan. 31)
1290 Oakmead Parkway, Suite 218,
Sunnyvale, Calif. 94086
Phone (408) 746-1800; fax (408) 746-0749

AUTODESK INC.
AutoCAD for Macintosh 10.0: \$3,000
2320 Marinship Way, Sausalito,
Calif. 94965
Phone (415) 332-2344 or (800) 445-5415

AUTODESK RETAIL PRODUCTS (FORMERLY GENERIC SOFTWARE INC.)
Generic CADD 1.0: \$595
11911 North Creek Parkway S., Bothell,
Wash. 98011
Phone (206) 487-2233 or (800) 228-3601; fax (206) 483-6969

BUNGDABBA PRODUCTIONS
ColorizeHC XCMD: on Zmac, the Ziff-Davis Publishing Co.'s on-line service

CLARIS CORP.
Claris CAD 2.0: \$899; **MacDraw II:** \$199; **MacDraw Pro:** \$399
5201 Patrick Henry Drive, Santa Clara,
Calif. 95052
Phone (408) 727-8227

COMPUTERVISION CORP.
VersaCAD/Macintosh 4.0: \$1,995;
VersaCAD Drafter: \$595
100 Crosby Drive, Bedford, Mass. 01730
Phone (617) 275-1800, Ext. 4594
or (800) 248-7728; fax (617) 275-1800,
Ext. 4525

See Product Info, Page 48

Which Comes First...

Dual Page Monochrome Display with Video Card
Screen size (flat) —
19 inch diagonal
Resolution — 74 DPI WYSIWYG
(same as Apple Two Page)
Vertical Refresh Rate — 75 Hz

Full Page Monochrome Display with Video Card
Screen size (rounded) —
15 inch diagonal
Resolution — 80 DPI WYSIWYG
(same as Apple Portrait)
Vertical Refresh Rate — 75 Hz
(same as Apple Portrait)

Full Page Gray Scale Display (256 shades) with Video Card
Screen size (flat) —
15 inch diagonal
Resolution — 80 DPI WYSIWYG
(same as Apple Portrait)
Vertical Refresh Rate — 75 Hz
(same as Apple Portrait)



The Display Card or the Display?

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So whether you're in the market for a display card or a complete display solution, Lapis makes sure that you'll always come out first. Of course that also goes for our service and support. We'll answer every question you ever wanted to ask when you call our technical support line. (Just don't try that chicken and egg one, it gets 'em every time.) Just call us at **1-800-43-LAPIS** for the location of the nearest Lapis dealer. Any more questions? Good.



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Product Info

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CYAN

Peacock: \$69
P.O. Box 28096, Spokane, Wash. 99228
Phone (509) 238-6789; fax (509) 467-2209

DESIGNCAD INC.

DesignCAD 2D/3D Macintosh 3.0: \$699
1 American Way, Pryor, Okla. 74361
Phone (918) 825-4848; fax (918) 825-6359

DYNAREWARE USA INC.

DynaPerspective 2.3: \$995
950 Tower Lane, Suite 1150, Foster City,
Calif. 94404
Phone (415) 349-5700 or (800) 445-3962;
fax (415) 349-5879

ELECTRIC IMAGE INC.

Electric Image Animation System: \$7,495
117 E. Colorado Blvd., Suite 300, Pasadena,
Calif. 91105
Phone (818) 577-1627; fax (818) 577-2426

ENGINEERED SOFTWARE

PowerDraw 3.0: \$795
615 Guilford-Jamestown Road, Greensboro,
N.C. 27409
Phone (919) 299-4843

GRAPHIC USER INTERFACES INC.

FileFlex: \$195
501 Seaport Court, Redwood City,
Calif. 94063
Phone (415) 367-1221;
fax (415) 367-1073

GRAPHISOFT

ArchiCAD 4.0: \$4,450
400 Oyster Point Blvd., Suite 429, South San
Francisco, Calif. 94080
Phone (415) 737-8665 or (800) 344-3468;
fax (415) 871-5481

GRAPHISOFT INC.

Blueprint 2.1: \$295; **MiniCad+ 3.1:** \$795
8370 Court Ave., Suite 202, Ellicott City,
Md. 21043
Phone (410) 461-9488;
fax (410) 461-9345

HEIZER SOFTWARE

CompileIt! 2.0: \$99;
Dialoger Professional: \$125
P.O. Box 232019, Pleasant Hill, Calif. 94523
Phone (510) 943-7667;
fax (510) 943-6882

INNOVATIVE DATA DESIGN INC.

MacDraft 2.1: \$399
2280 Bates Ave., Suite A, Concord, Calif. 94520
Phone (510) 680-6818; fax (510) 680-1165

INTERGRAPH CORP.

MicroStation Mac: \$3,300
1 Madison Industrial Park, Huntsville, Ala.
35807-4201
Phone (800) 345-4856; fax (205) 730-9491

MACROMIND-PARACOMP INC.

ModelShop II: \$895; **Swivel 3D
Professional 2.0:** \$695
600 Townsend St., San Francisco,
Calif. 94103
Phone (415) 442-0200; fax (415) 442-0190

MITEM CORP.

MitemView: \$4,500 for tools; \$300 for runtime
modules; volume discounts available
2105 Hamilton Ave., Suite 350, San Jose,
Calif. 95125
Phone (408) 559-8801;
fax (408) 559-7201

NINE TO FIVE SOFTWARE INC.

Reports 2.0: \$149.95;
Letters 2.0: \$129.95
3360 Mitchell Lane, Suite 105, Boulder,
Colo. 80301
Phone (303) 443-4104;
fax (303) 443-4386

FREDERIC RINALDI

XCMDs available on CompuServe;
GO MACHYPER

SILICON BEACH SOFTWARE,
A SUBSIDIARY OF ALDUS CORP.

Super 3D 2.5: \$495
411 First Ave. S., Seattle, Wash. 98104
Phone (206) 628-2320 or (800) 274-7243;
fax (206) 343-3360

SPECULAR INTERNATIONAL

Infini-D 1.1: \$895
233 N. Pleasant St., Amherst, Mass. 01002
Phone (413) 549-7600; fax (413) 549-1531

VISUAL INFORMATION DEVELOPMENT INC.

Presenter Professional: \$3,600
16309 Doublegrove St., La Puente, Calif. 91744
Phone (818) 918-8834; fax (818) 918-9935

VIRTUS CORP.

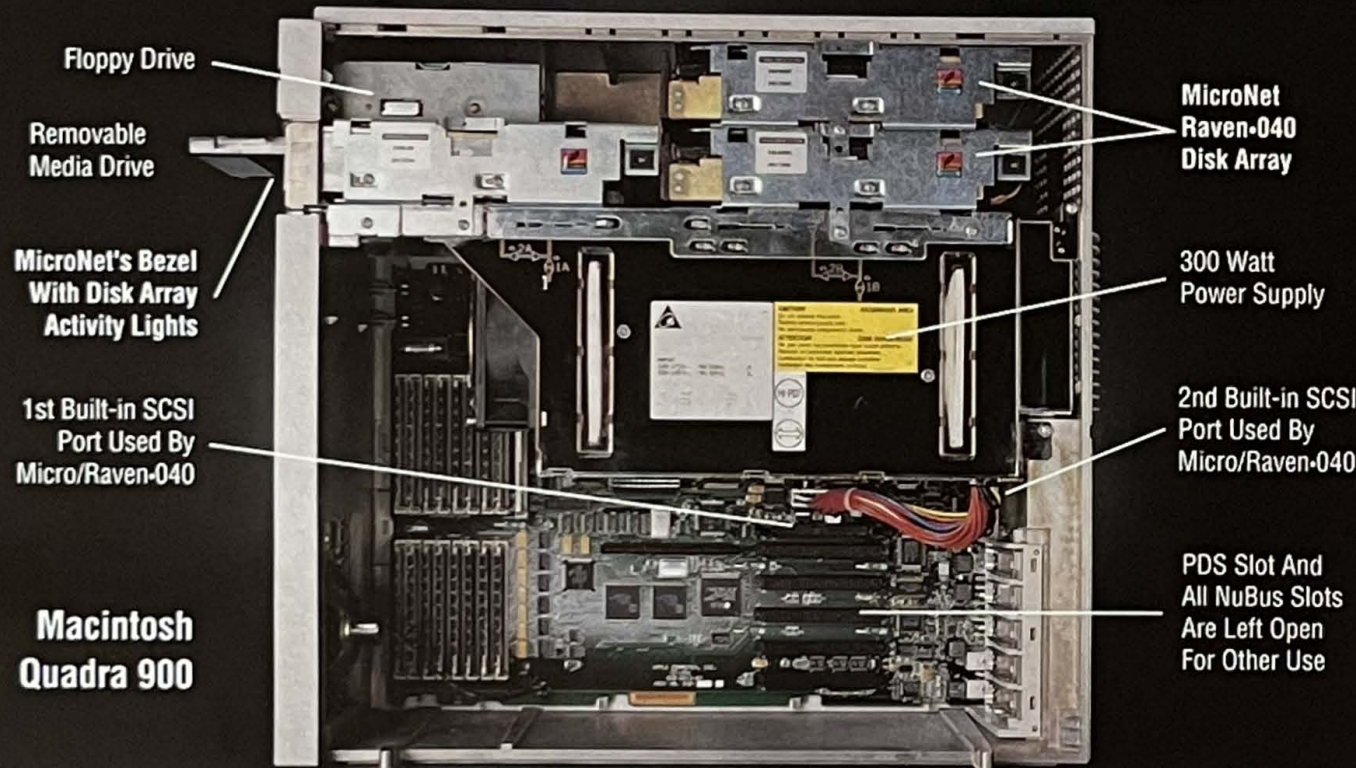
Virtus WalkThrough: \$395
117 Edinburgh S., Suite 204, Cary, N.C. 27511
Phone (919) 467-9700; fax (919) 460-4530

XNET

XCMDs available on CompuServe;
GO MACHYPER

Disk Array•040!

MacUser Eddy Nominee for 1991 - See live Demo
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High Performance Storage For The Macintosh Quadra 900 MicroNet's Raven•040 Internal Disk Arrays

MicroNet's RAVEN brought unbeatable disk array performance to the Macintosh II. Now there's a more powerful Macintosh. The Quadra 900! It's based on 68040 technology and it's fast. The performance of the Quadra can be greatly increased by use of a MicroNet RAVEN-040 disk array.

The RAVEN-040 is a two-drive array that employs FAST-SCSI-2 technology. With data bursts as fast as 10 MBytes/sec, and average access times as low as 7 ms, these new systems are four times faster than the standard 160 MByte drive. They install internally and range in capacity from 624 to 2,020 MBytes.

The RAVEN-040 is expressly designed to use the built-in SCSI-2 ports of the Quadra 900. The PDS and all five NuBus slots remain open for other use.

The RAVEN-040's built-in performance makes it ideal for graphics, animation, pre-press, digital sound, multimedia, CAD/CAM, and file-servers, where speed and capacity are paramount.

The RAVEN-040 is the ultimate data storage system for Quadra 900.

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Software & Hardware That Fits





GORDON STUBBS

MacInTouch RIC FORD

Catching up on bugs, tips and upgrades

All the recent changes in Mac hardware and system software create extra housekeeping chores, as we have to discard old programs and load new ones.

BUGS & TIPS

Keeping up. Keeping track of changes in applications and extensions is almost a full-time job now, with the hardware and ROM changes of the new Macs, and the continued influence of System 7's operating system changes. Many old programs must be discarded in the move to 32-bit addressing, 68040s and virtual memory, as new programs arrive to take advantage of added system features.

Patched Portable. The PowerBook 100 is the one Mac notebook that can run under System 6, but its backlighting control knob works only with System 7.

The Portable Control Panel device (cdev) in System 6 provides

limited control over the PowerBook 100's screen brightness, but it does not work correctly.

The solution is a newer version of the cdev. Systems 6.0.5 and 6.0.7 contained Portable 1.2, but a newer release, Portable 1.3, works much better with the PowerBook 100. It controls the screen brightness in the cdev (although a glitch turns off the backlighting when you first open the cdev) and lets you configure control keys and arrow keys to adjust the backlighting brightness without opening the cdev.

Portable 1.3 should be available from Apple dealers and AppleLink. Note that System 7 versions of the Portable control panel do not work correctly with System 6 on the PowerBook 100.

Acta 7.0 upgrade. Minor problems have dogged Acta 7, the System 7 update of Symmetry Software Corp.'s outliner.

First its release was delayed after upgrade orders had already been taken. Then a variety of cosmetic bugs surfaced in the delivered version. Acta 7 users had to force outline topics to be redrawn to clear up visual glitches, and topics sometimes remained highlighted after they were no longer selected. (Fortunately, there have been no problems with the integrity of the data itself, in our experience and according to the company.)

Symmetry plans to ship an improved release to all registered Acta 7 owners. The new version, Acta 7 1.0.2, should begin arriving about the time this column is printed.

Magic Menu return. Aladdin Systems Inc. has released a new version of Magic Menu, an extension that's part of StuffIt Deluxe 2.0. The extension adds a new menu to the Finder for compressing and decompressing files and sending files via electronic mail directly from the desktop; however, it didn't work with System 7.0.

Aladdin had originally said it would not update Magic Menu because two forthcoming products, StuffIt Deluxe 3.0 and SpaceMaker, would meet the same needs in other ways. Both of those releases have slipped, so the company decided to update Magic Menu after all.

Magic Menu 2.02 supports System 6 and System 7, QuickMail 2.5 and Microsoft Mail 3.0. It's available from on-line services, including Zmac, where it is file MGMENU.SEA in Library 13 ("Demo/Vendorware") at GO ZMC:DOWNLOAD. You also can order it free from Aladdin.

Cache tricks. Quadra owners who do not have Zmac's CacheOut or Compatibility from Aylis Software Corp. for automatic cache switching (see MacWEEK, Dec. 3, 1991) may want to try a hidden feature of Apple's own CacheSwitch control panel.

By holding down the Option key when you click on the control panel's mode buttons, you can

Ask David Ramsey

Mac, you can't get no ISO 9660



Q: I've got a DOS CD-ROM in ISO format, but Dayna Communications Inc.'s DOS Mounter won't recognize the disc. Why?

A: The International Standards Organization's ISO 9660 CD-ROM format is not a DOS disk format, so

it's no surprise that DOS Mounter won't work. Apple's ISO driver gives Mac programs access only to the low-level data on such discs; you'll need another program to interpret that data. Since your CD was created for DOS users, the easiest way to read it on the Mac is Insignia Solutions Inc.'s Universal SoftPC, which includes Microsoft Corp.'s CD-ROM extensions for DOS. You'll also need to obtain the DOS program that can read your ISO disc.

Q: Before System 7, we could quickly regain extra space on an empty floppy by rebuilding the desktop, but this doesn't seem to work under System 7.

A: You're right. Finder 7 apparently won't rebuild the desktop info on a floppy that contains no files. I don't know if this is a bug or a feature, but it means you have to go to extra trouble to reclaim space used by large desktop files on disks.

Solutions: You can reinitialize the disk, or drag a single file over to it, rebuild the desktop and then throw the file away.

Q: I'm getting ready to buy a new hard drive for some serious image editing. A friend suggested I get a drive with a "look-ahead cache." What is this?

A: As you probably know, a cache is a small amount of fast memory that acts as a buffer between the CPU and slower memory. Some hard disks include a small amount of cache RAM on their controllers.

A look-ahead cache goes one step further than a regular cache: It anticipates and preloads the data it thinks you'll need next, which in this case is generally the data on the next sectors or tracks of the hard disk.

A look-ahead cache is a good idea, but since the amount of cache RAM on the hard disk controller is generally pretty small — 32 Kbytes or so — it really won't help much with large image files. Look for a disk with a high sustained transfer rate instead.

Please send questions to David Ramsey on CompuServe: 76702,335 or to Ask David Ramsey, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105.

The Help Desk

Alerting users to Meeting Maker bug and other glitches

► If you have ON Technology Inc.'s Meeting Maker desk accessory open, the program will alert you only once of upcoming events or incoming scheduling requests (it's supposed to keep notifying you until you respond). It's a bug.

► Apple's Tape Backup 40SC application does not work under System 7, and no update is planned. If you have data archives created with it, you'll be able to restore from them only on a System 6 Mac.

► If you are updating AppleTalk on an older Mac, make sure to use Apple's Installer. Starting with Version 53 of AppleTalk, you cannot simply drag the AppleTalk extension into the System folder.

REFERENCES

Symmetry Software Corp. is at 8603 E. Royal Palm Road, Suite 110, Scottsdale, Ariz. 85258. Phone (602) 998-9106 or (800) 624-2485; fax (602) 991-0572. Aladdin Systems Inc. is at Deer Park Center, Suite 23A-171, Aptos, Calif. 95003-4723. Phone (408) 685-9175; fax (408) 662-8418. □

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switch cache modes on the fly and avoid restarting the Quadra.

Note that changes to the cache mode may require turning AppleTalk off and on in the Chooser to resynchronize the Mac with printers and other network services.

System 7 purge. A new key combination can help tame wayward applications under System 7, letting you abort a program without the need for a debugger or special programming commands.

Pressing Command-Option-Escape for "forced quit" gives you a dialog that lets you continue normally or abort the current program. This can be helpful in saving data in other open programs when the current program freezes.



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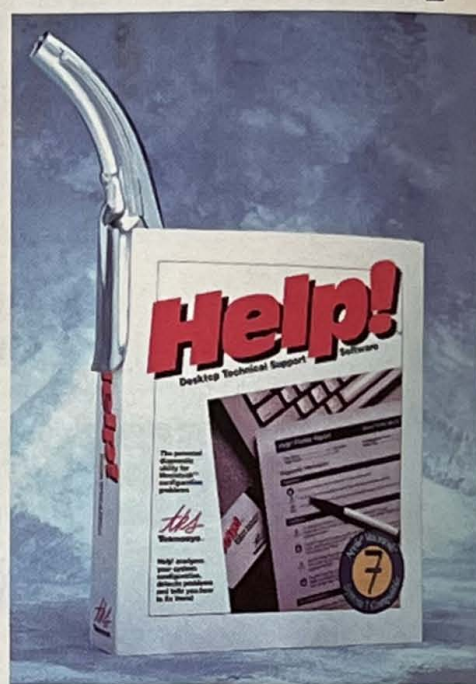
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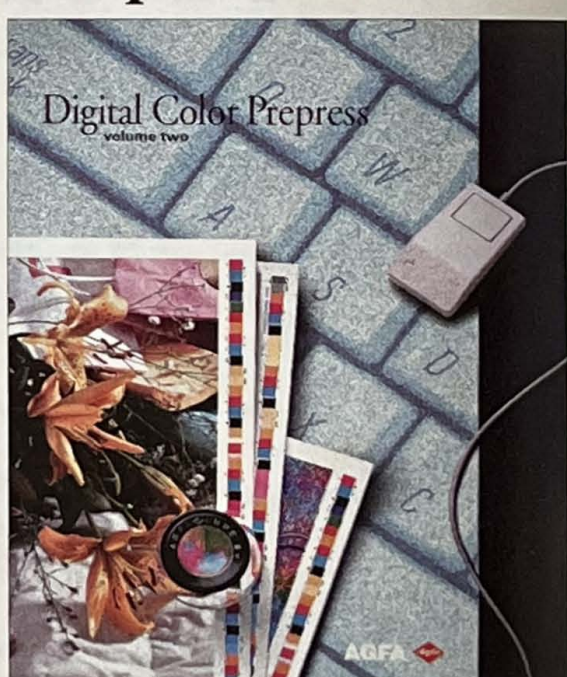
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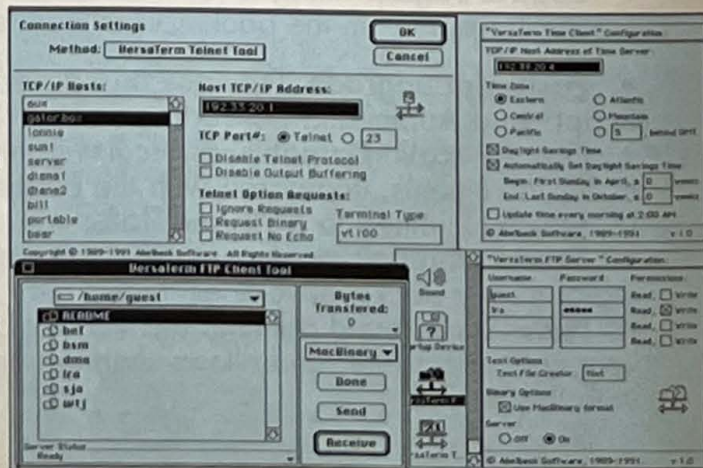
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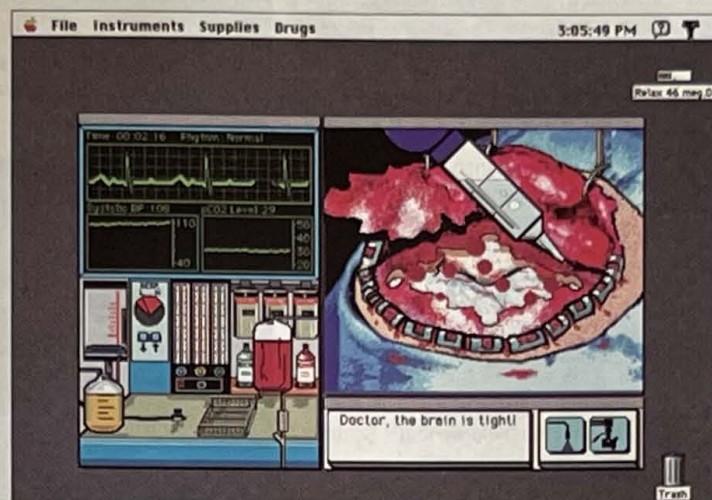
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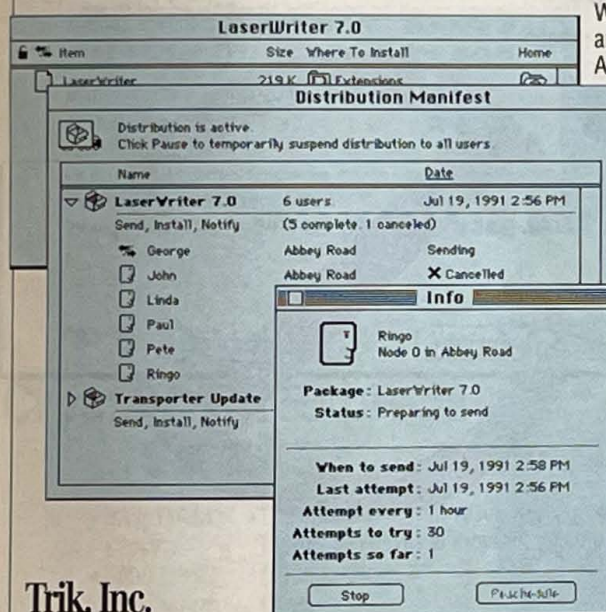
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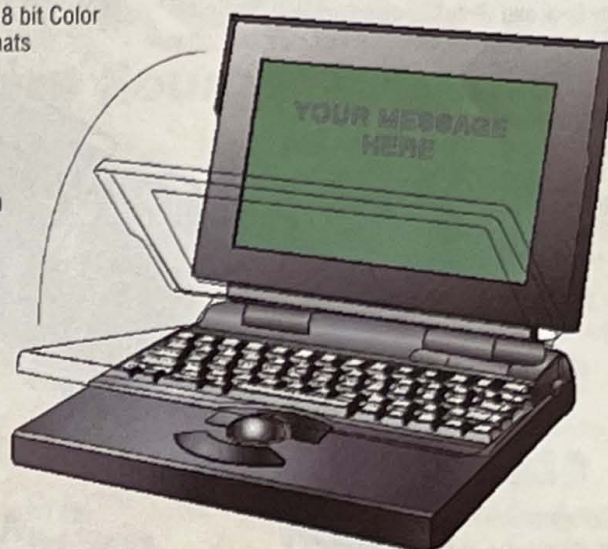
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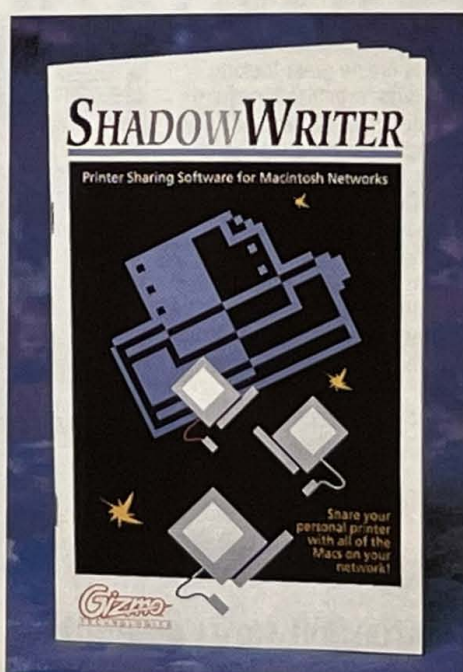
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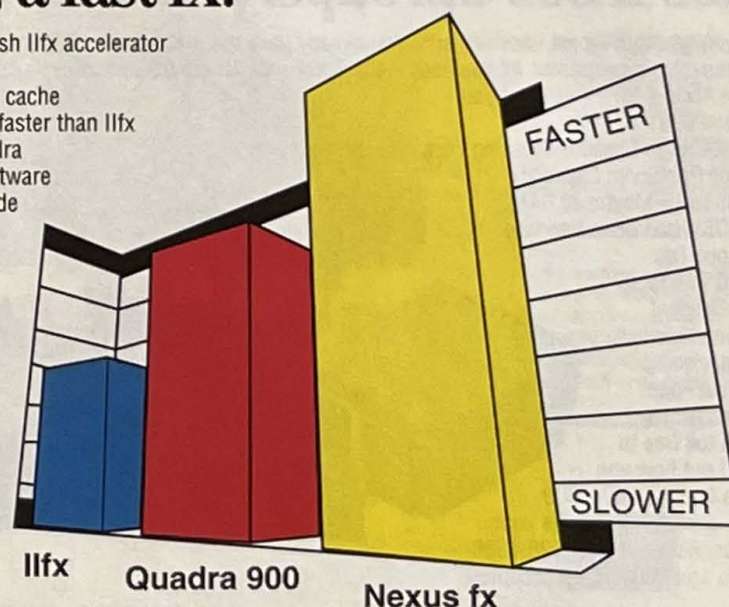
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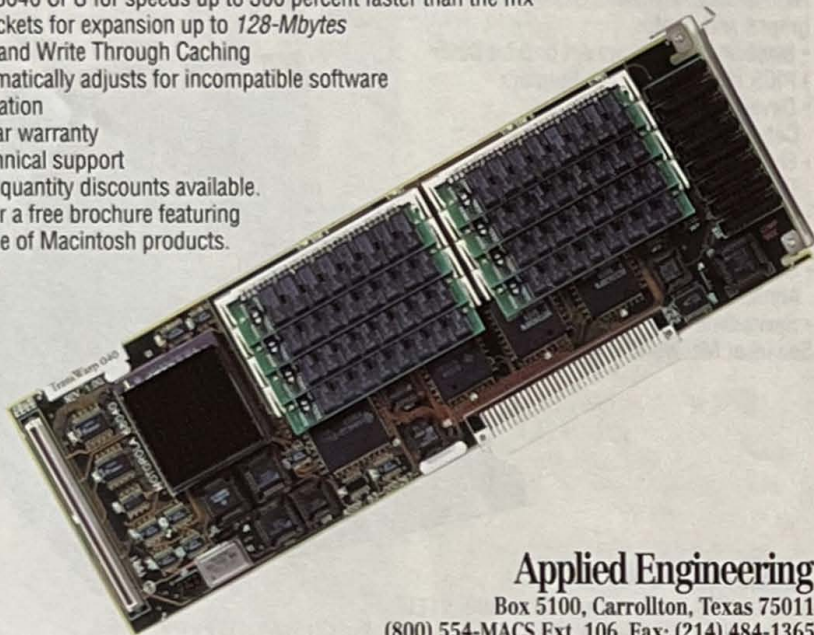
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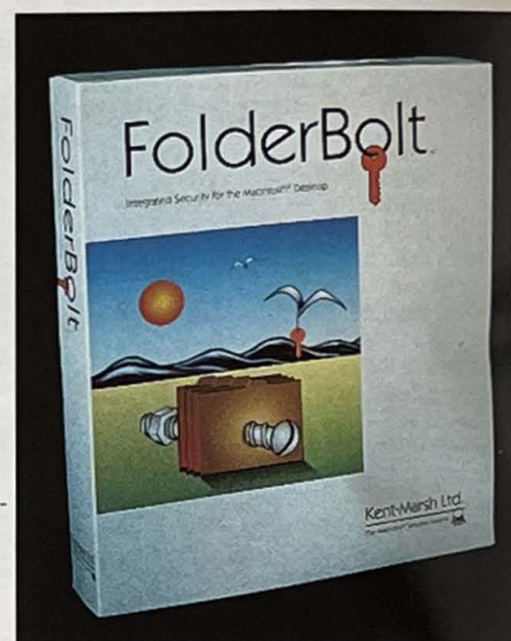
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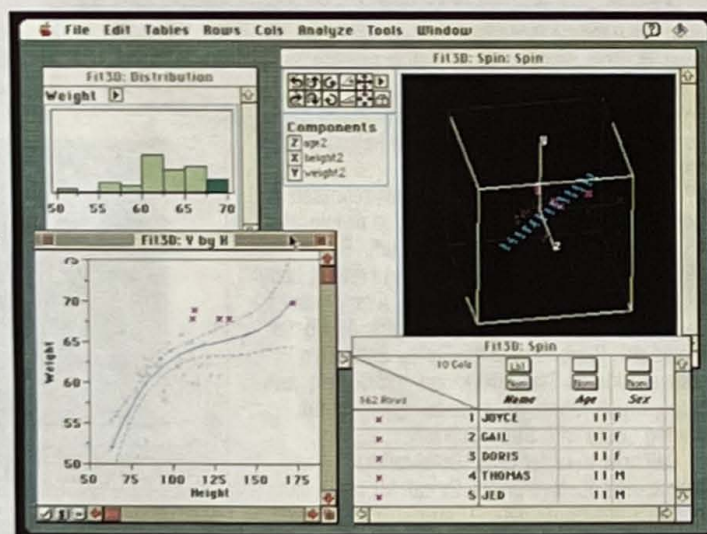


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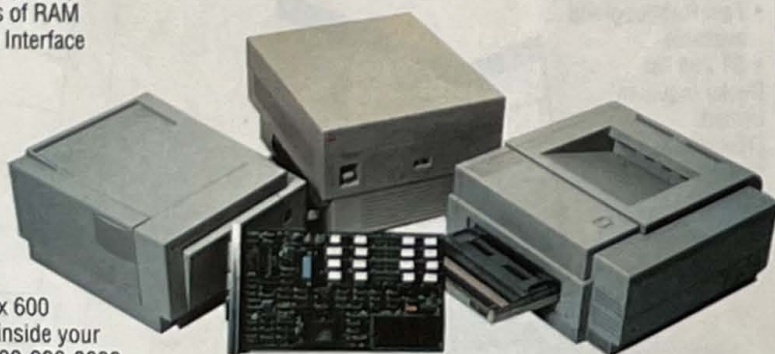
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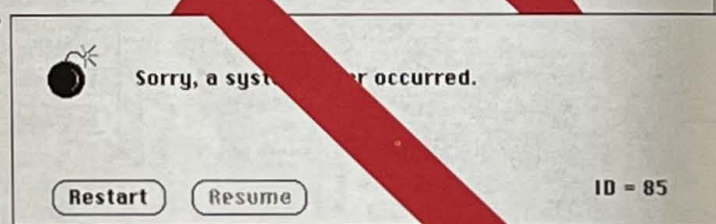
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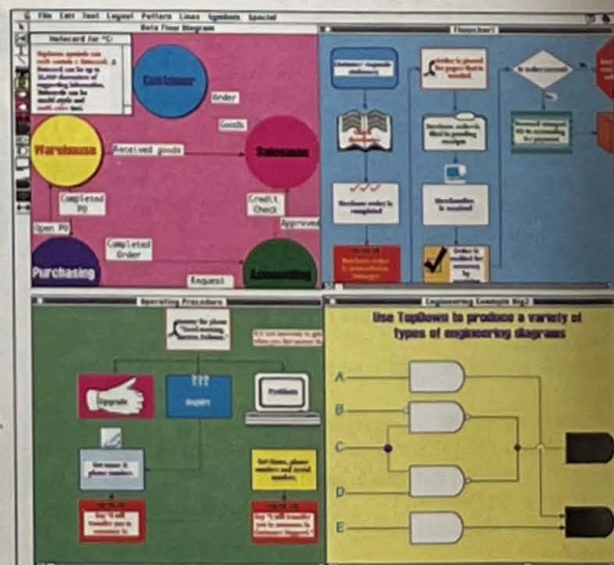
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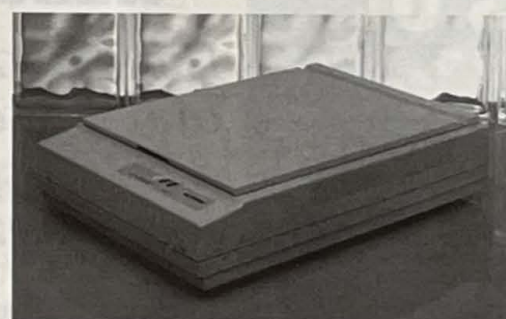
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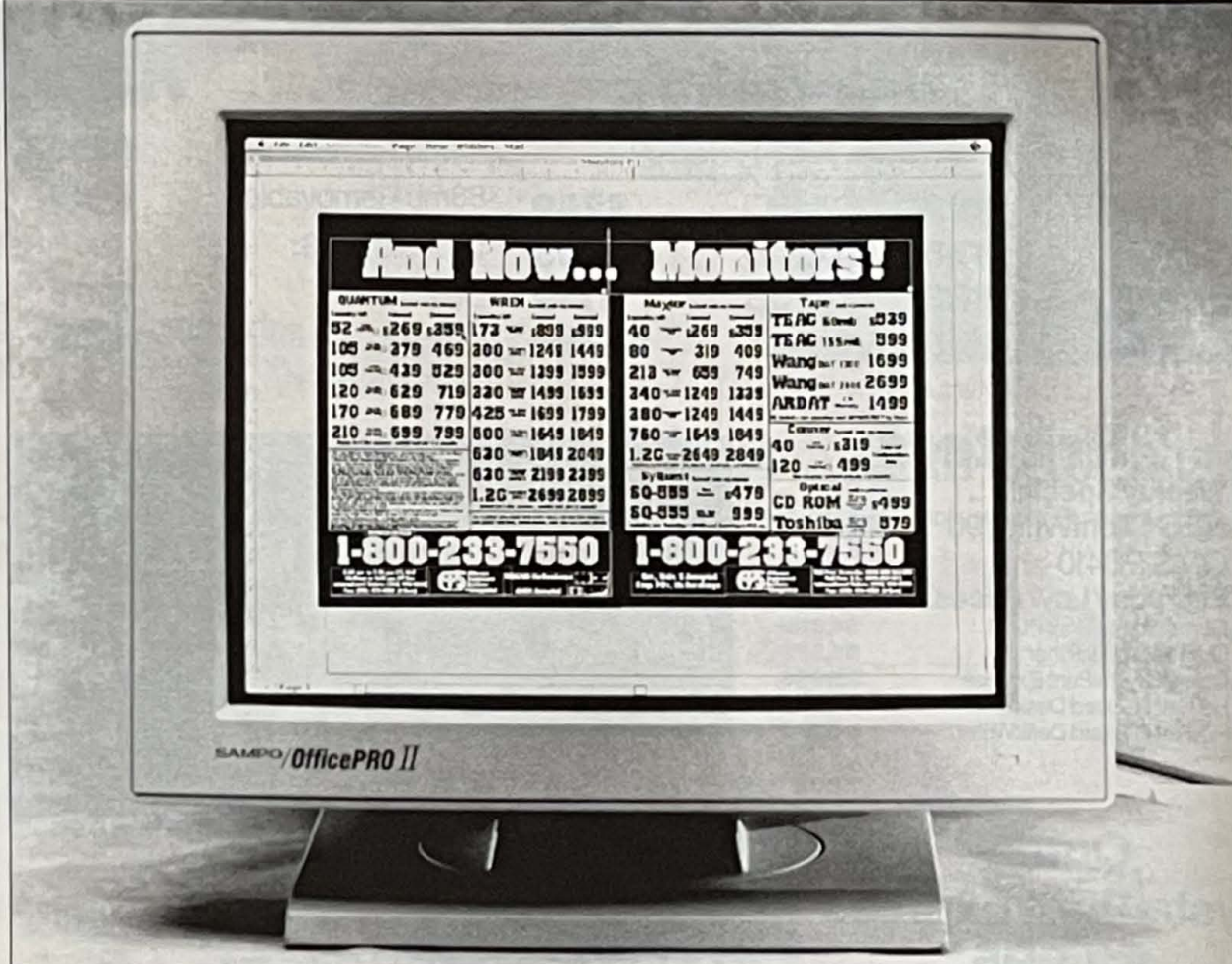
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• Brackets and Cables Included •

All Hard Drives include brackets, cables, cords and LED's required for operation in the specified Macintosh. All Hard Drives come pre-formatted with Apple's latest stable all-platform System software and the "ALLIANCE POWER TOOLS" SCSI formatter/hard partitioner.

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High performance, high capacity for many Mac models

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Balanced, low-mass rotary voice coil actuator.

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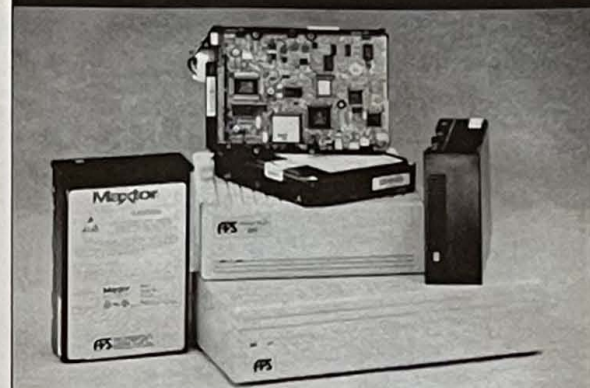
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170 Pro-170s	499	589
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MB	INTL	EXTL
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535	1549	1649
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MB	INTL	EXTL
300	\$1199	\$1349
300_{nh}	1199	1299
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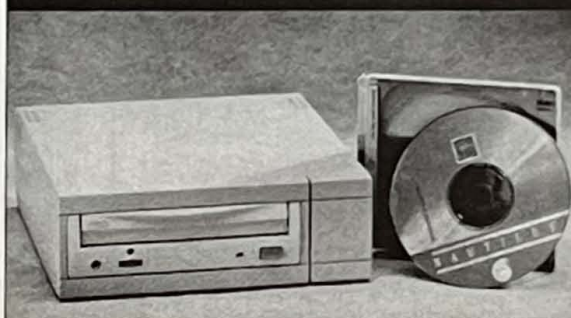
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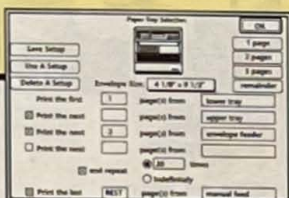


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Mac II, IIcx, IIci	Mono	995
IIx, IIfx, SE30	GS 256	1479
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Mac II, IIcx, IIci, IIx, IIfx	GS 256	1079
Mac IIsi, IIci	GS 16	495

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—Reel

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*IIsi solution retains PDS slot for the RealTech cache card.

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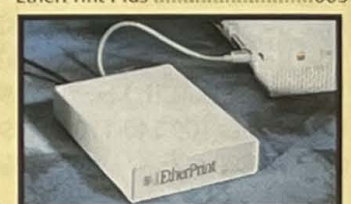
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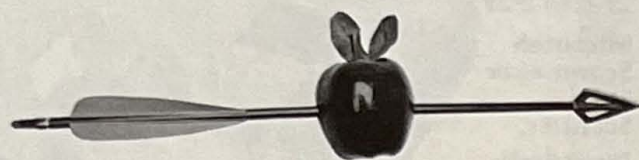
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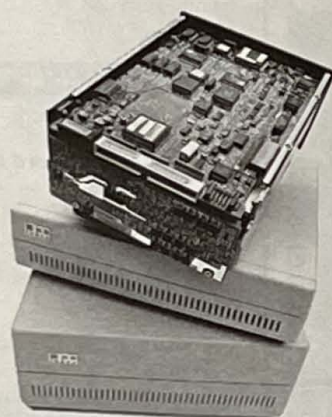
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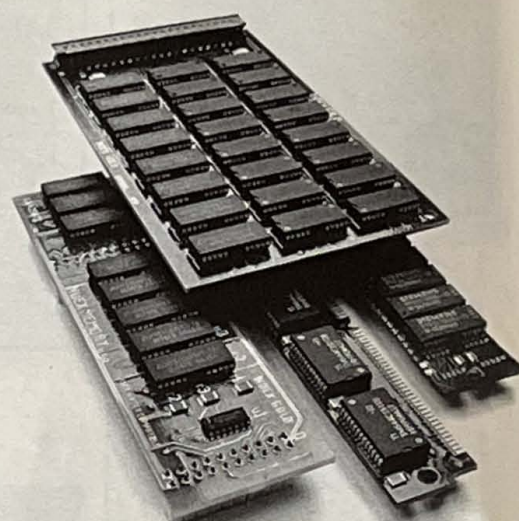
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16

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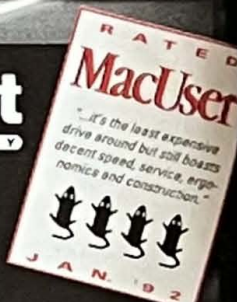


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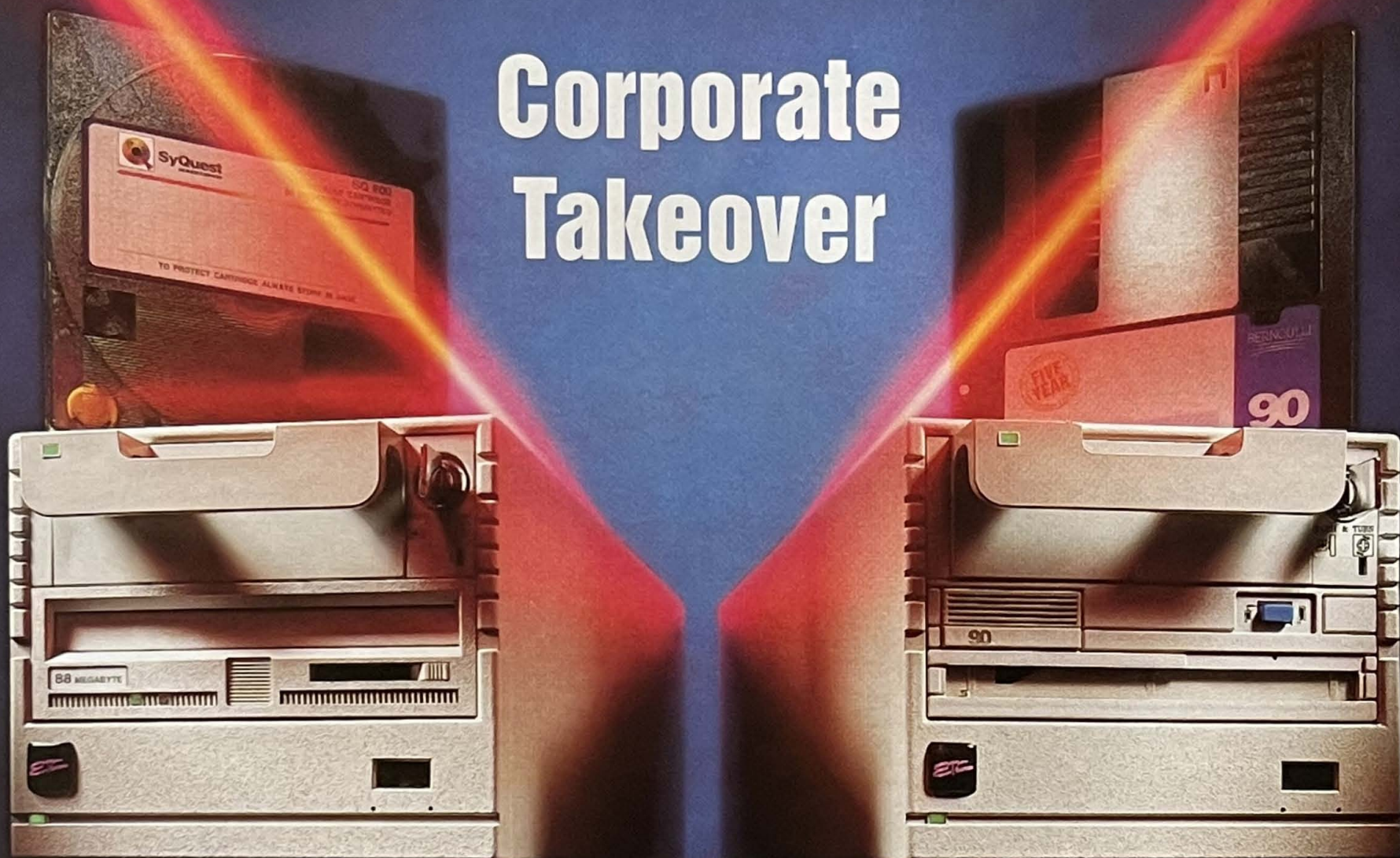
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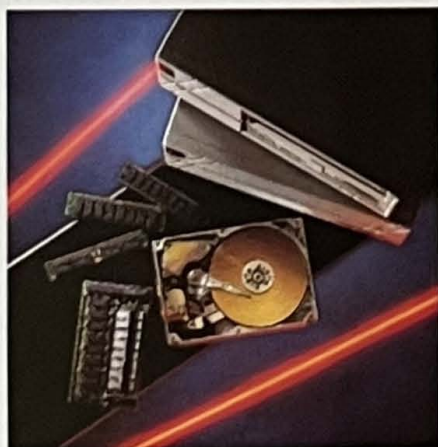
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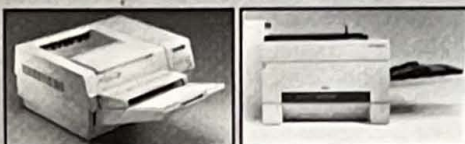
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NEC



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SilentWriter2 Model 90	\$1499
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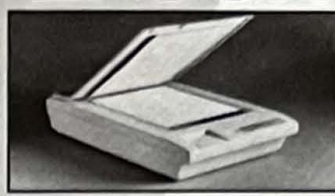


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• 2MB RAM std. up to 6MB	
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EPSON



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50 MHz PowerCache	\$1359
50 MHz PowerCache (68882)*	\$1629
QLS 16 MHz 68881 for LC	\$89
QLS 16 MHz 68882 for LC	\$129

radius Rocket	\$1695
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68881 Math Co-Processor Upgrade	\$75

Educational Center

HP DeskWriter Printer	\$429	HEWLETT PACKARD	HP ScanJet Plus Scanner	\$1049
• 300 dpi • 1-2 ppm			• 300 dpi scanning for both DTP (image) and OCR (text) applications	
• AppleTalk and RS-422-A Serial Interface			• Includes MAC Interface	
• Built-in sheet feed (up to 100 sheets)			• Includes color-image editing & grayscale software	
• FREE cable!			HP ScanJet IIC Scanner	\$1349
HP DeskWriter C Printer	\$749		• High quality 400 dpi monochrome & color scanning	
• 300 dpi • 1-2 ppm			• Fast, one-pass image scanning	
• 4-7 mins for full color			• Includes MAC Interface	
• AppleTalk, RS-422-A Serial Interface			• Enhanced OCR accuracy with HP AccuPage Technology	
• Built-in sheet feeder up to 100 sheets			• Optional Automatic Document Feeder	
• THREE Year Warranty!!				

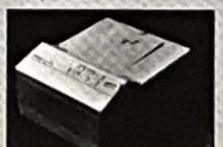
HP LaserJet Series III	\$2289
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- 300 dpi Resolution Enhancement Technology
- Up to 8 ppm print speed
- 2MB RAM std
- Adobe PostScript printing
- AppleTalk compatibility



HP LaserJet IIP	\$1689
------------------------	---------------

- 300 dpi Resolution Enhancement technology
- Up to 4ppm print speed
- 2MB RAM std
- Adobe PostScript printing
- AppleTalk compatibility



Networking

ASANTÉ

Mac II Series, LC, SE, SE/30 Ethernet Cards	
Thick/Thin, 16K	\$189
Thick/Thin, 64K	\$239
Thick/10BaseT, 16K	\$189
Thick/10BaseT, 64K	\$239
Thick/Thin/10BaseT, 64K	\$249

Mac Plus/Classic Ethernet Adapter	
SCSI Ethernet Thick/Thin/10BaseT	\$319
10BaseT Hub with 14 Ports	\$639

Shiva

NetModem 2400	\$339
NetModem 9600	\$1179
NetModem/E	\$1685
Hublet	\$295

Memory and Cache Cards

1mb - 8 - 80ns Simms	\$36
2mb - 8 - 80ns Simms	\$89
4mb - 8 - 80ns Simms	\$145
16mb - 8 - 80ns Simms	\$865
1mb Classic Simms	\$55
1mb FX Simms	\$39
4mb FX Simms	\$155

MICRON TECHNOLOGY, INC.

Mac II or SE/30 8-bit Video Card	\$289
Mac IIfx Cache Card	\$199
Crunch-It! (68882 Math Coprocessor for LC)	\$115
MultiColor (8/16-bit Video Memory Upgrade for LC)	\$99
Cache-It! Bundle (200 Expansion, Cache, FPU Board for IIsi)	\$295
ATTO 32K 030 Cache Card (Mac IIsi)	\$209
ATTO 64K Cache Card	\$149

Fax Modems and Modems

Abaton INTERFAX 24/96	\$299
DoveFax Desktop (2400 baud modem/9600 baud fax modem)	\$275
DoveFax Plus	\$335
EMAC 2400 Modem with MNP 5	\$145
3C 2400/9600 Baud Fax Modem	\$189
3C 2400 Baud Modem (incl. comm. software & cable)	\$97

SAMPO AMERICA

Mac OfficePRO II Graphic System

- 20" high resolution monochrome display
- 1024 X 768 at 72 dpi
- 1-bit Lapis Video Card



\$749

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Quantum Drives include a TWO Year Warranty.
3.5" Half Height drives are the PRO series.
3.5" Low Profile drives are the LPS series.
*3.5" Low Profile, Low Power drives for the
Mac Classic, LC & IIsi.

Quantum

Capacity	Product Description	Internal	External
50mb	3.5" Low Profile 9ms/25ms*	\$215	\$275
105mb	3.5" Low Profile 9ms/25ms*	\$335	\$395
120mb	3.5" Half Height 10ms	\$389	\$449
170mb	3.5" Half Height 10ms	\$499	\$559
210mb	3.5" Half Height 10ms	\$619	\$679
425mb	3.5" Half Height 8ms	\$1179	\$1239

Seagate

Capacity	Product Description	Internal	External
420mb	ST1480N 3.5" HH 14ms	\$1269	\$1329
320mb	ST2383N 5.25" HH Wren-6 14ms	\$1155*	\$1215
320mb	ST4385N 5.25" FH W-Run 10.7ms	\$1249*	\$1349
645mb	ST4767N 5.25" FH W-Run II 11.9ms	\$1619*	\$1719
645mb	ST4766N 5.25" FH Wren-6 15.5ms	\$1389*	\$1489
1.0GIG	ST41200N 5.25" FH Wren-7 15ms	\$1869*	\$1969
1.4GIG	ST41650N 5.25" FH Wren-8 15ms	\$2339*	\$2439



Seagate Drives include a ONE Year Warranty
and the ClubMac Package.
*Internal Full Height Drives fit the Mac II, IIfx, and
Quadra 900 only.
Add \$10 for Quadra 900 Bracket.

Tape Backup Systems

Teac	155mb	\$579
Teac	600mb	\$779
WangDat 1300XL	2.0GIG	\$1295
WangDat 2000	3.0GIG	\$1569
ClubMacDAT Archive Python	2.0GIG	\$1389
Exabyte 8200	2.2GIG	\$2095
Exabyte 8500	5.0GIG	\$3329
Hewlett Packard DAT 35470A	2.0GIG	\$1439
Hewlett Packard DAT 35480A	5-8GIG	\$1879

The featured tape backup systems include ONE year warranty, one cassette, RETROSPECT (v.1.3) backup software, and all necessary cables. (left)Teac 600mb Tape Backup System, (middle)DAT Tape Backup System, (right)Exabyte Tape Backup System



SyQuest

SyQuest 44 mb and 88mb capacity cartridges easily replace fixed disk drives. Syquest drives includes a 2 year warranty, one cartridge, all necessary cables, and SCSI Director™ Formatting Utility. *Includes (1) 44mb & (1) 88mb cartridge. Drives Feature:

- Ave. access seek time 20ms • Fully embedded SCSI controller
- Transparent defect management with track and sector sparing
- Automatic Error Correction and retry • MTBF of 60,000 hours



44mb	\$429
88mb	\$589
Dual 44mb	\$779
Dual 88mb	\$1099
Dual 44mb & 88mb*	\$1039
44mb Cartridge	\$65
88mb Cartridge	\$109

ClubMac Package

SCSI Director™ Hard Disk Formatting Utility
• All ClubMac Drives are System 7.0 compatible!
• A/UX supported
• Partition & Password Protection

ClubMac Package:

- Internal Drives include mounting brackets, cables, and SCSI Director™ Formatting Utility
- External Drives include a 25/50 pin SCSI cable, power cable, SCSI Director™ Formatting Utility, and a zero-footprint cabinet (two 50 pin SCSI ports, removable termination, auto-switching power supply)
- All hard drives come preformatted and tested.
- All drives have internal termination.
- Termination can be removed upon request.
- Daisy chain cable substituted upon request.
- All capacities and speeds are manufacturer's specs. Actual specs may vary.

ClubMac Package



The HP disk drives featured combine world-class performance with unmatched reliability. These drives ship with what Hewlett Packard believes is the first SCSI-2 embedded controller. MTBF on the disk drives maintain HP's industry first 150,000 hours. HP backs up the quality and reliability of their drives with a 5 year warranty†, insuring low overall cost of ownership and long-lasting value. The HP DAT drives include a ONE Year Warranty, one 90m cartridge, and RETROSPECT (v.1.3) backup software. HP's own Data compression chip set allows



HEWLETT PACKARD

Capacity

Product Description

Internal

External

Disk Drives

422mb

C2235S

- Average seek time: 12.6ms
- Average latency: 7.5ms
- Data transfer rate: 23 Mbits/s
- Sustained transfer rate: 10 Mbytes/s

\$1305 \$1365

663mb

97548 T/P

- Average seek time: 16.5ms
- Average latency: 7.5ms
- Data transfer rate: 20 Mbits/s
- Sustained transfer rate: 5 Mbytes/s

\$1429 \$1529

1.0GIG

97558

- Average seek time: 13.5 ms
- Average latency: 7.5ms
- Data transfer rate: 23 Mbits/sec
- Sustained Transfer Rate: 10 Mbytes/sec

\$2109 \$2209

DAT Drives

2.0GIG DDS

35470A

\$1439

5-8GIG DDS

35480A features data compression

\$1879

FUJITSU

Unbeatable Quality and Performance

Capacity

Product Description

Internal

External

330mb

M2622SA

3.5" Half Height 9ms

\$1497 \$1557

425mb

M2623SA

3.5" Half Height 9ms

\$1567 \$1627

520mb

M2624SA

3.5" Half Height 9ms

\$1629 \$1689

345mb

M2261

5.25" Full Height 16ms

\$1197 \$1297

645mb

M2263

5.25" Full Height 16ms

\$1295 \$1395

1.2GIG

M2266

5.25" Full Height 11.5ms

\$1995 \$2095



Fujitsu 3.5" high performance SCSI disk drives features

- 5MB/s and 10MB/s data transfer rate • 6.82 ms average latency
- 240 KB read-ahead cache buffer • 4,400 RPM spindle rotation

Fujitsu 5.25" high performance SCSI 5.25" Winchester disk drives features

- Embedded SCSI interface • As fast as 14.5 ms positioning time
- Up to 4.8 MB/s SCSI data transfer rate

Fujitsu drives include a 5 Year Warranty † & the ClubMac Package.

Maxtor®

Capacity

Product Description

Internal

External

80mb

7080

3.5" Low Profile 17ms

\$289 \$349

120mb

7120

3.5" Low Profile 15ms

\$349 \$409

207mb

LXT-213

3.5" Half Height 15ms

\$589 \$649

330mb

LXT-340

3.5" Half Height 15ms

\$939 \$999

535mb

LXT-535

3.5" Half Height 12ms

\$1449 \$1509

645mb

XT-8760S

5.25" Full Height 16.5ms

\$1389* \$1489

1.0GIG

PO-12S

5.25" Full Height 13ms

\$1879* \$1979

1.4GIG

PI-17S

5.25" Full Height 13ms

\$2489* \$2589



Maxtor Drives include a TWO Year Warranty and the ClubMac Package.

Maxtor 80 and 120 are perfect for the Mac Classic, LC, and IISI.

*Internal Full Height Drives fit the Mac II, Ix & Quadra 900 only (add \$10).

General Information . . .

- Visa and Mastercard accepted. No surcharge. Credit card orders are billed at time of shipment.
- Prices good for stock on hand. All prices subject to change without notice. Not responsible for typographical errors.
- University POs accepted with NET 30 terms. Corporate POs accepted upon APPROVAL.
- All shipments are FOB origin. Prices do not include freight. COD orders accepted, limit \$1500.

Warranties . . .

- All items manufactured by ClubMac are returned to ClubMac for warranty repair.
- All items carry manufacturer's warranty. † Restrictions apply.

Money Back Guarantee . . .

- All items manufactured by ClubMac carry a 30 day money back guarantee.
- ClubMac provides 30 day money back guarantee on all other products if manufacturer offers guarantee.
- Laser Printers, Scanners, Software, Monitors, and special order items do not carry a money back guarantee.
- All implied guarantees do not apply to price reductions. Some limitations apply.

Returns . . .

- Any product that is returned WITHOUT a RMA number will be refused and sent back to customer at customer's expense. Call for RMA number. Proof of purchase is REQUIRED.



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Premium power, an unconditional 30-day money-back guarantee, and a limited 1 year warranty make TOTAL SYSTEMS accelerator cards the *low-risk* choice for speed-hungry Macintosh users!

Magellan 040™ for Mac IIci, IIfx, SE/30, LC from \$2049

Are your low-cost platforms choking on high-end tasks like rendering, heavy math work, DTP chores? Magellan 040 plugs into the PDS slot — much more powerful than NuBus designs. Excellent software compatibility: automatic cache control and seamless fallback to 68030 for '040-ignorant applications, *without* restarts, or Control Panel fidgeting! Fits tight power budgets, too!

Magellan 040 LC—\$2049; Magellan 040 Si—\$2249;
Magellan 040 SE/30—\$2249; Magellan 040 Ci—\$2499

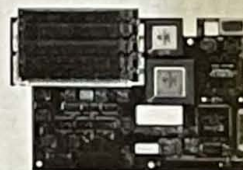


Magellan 040
TOTAL SYSTEMS

Gemini Classic™ for Mac Classic from \$866

Find System 7.0 slow, hard to run with a 4MB Classic? Disappointed by anemic Classic II? Turn your Classics into productivity GIANTS that eat the IIci for breakfast! Upgradeable '030 runs from 20MHz to 50MHz, with burst-mode, 68882 option, 1MB or 4MB SIMMs for up to 16MB RAM, logic board RAM disk feature, and more. Expansion for large screen or EtherNet card. VIRTUAL™ free.

20MHz—\$866; w/FPU—\$928; 33MHz—\$1063/\$1178;
50MHz—\$1178/\$1303
FPD—\$903; DPD—\$1216



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TOTAL SYSTEMS

Gemini Ultra™ for Mac SE, Plus from \$803

Are your SE and Plus users clamoring for more power and RAM for System 7.0? And what about big screens for old Macs? Look no further than the earth-shattering Gemini Ultra — the most powerful '030 accelerator available! Up to 50MHz of '030 power, FPU option, up to 16MB RAM with 4MB SIMM support, logic board RAM disk feature. Onboard expansion port for large screen or EtherNet connectivity. VIRTUAL™ free.

Gemini Ultra for SE: 20MHz—\$803, with FPU—\$866; 33MHz—\$991/\$1116;
50MHz—\$1116/\$1241.

Gemini Ultra for Plus, earlier: 20MHz—\$928, with FPU—\$991;
33MHz—\$1122/\$1247; 50MHz—\$1247/\$1366.

FPD—\$903; DPD—\$1216



**Gemini
Ultra**
TOTAL SYSTEMS



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- 12 to 14ms access times!
- Incredibly Reliable!
- Perfect for the Poweruser!



- All 3.5" Drives are available in zero footprint (including a 40 watt power supply, and dual AC outlets), or micro cabinets as well as internal for all Mac's.
- All 5.25" Drives are available in zero footprint external (including a 65 watt power supply, cables, and ext. terminators) or as internals for the Mac II, IIfx, and IIfx.

Fujitsu Drives

		Internal	External
45 MB	3.5" Low Profile/Low Power 3yr warr, 50,000MTBF	\$188	\$248
90 MB	3.5" 3yr warr, 50,000 MTBF	\$298	\$368
135 MB	3.5" 3yr warr, 50,000 MTBF	\$378	\$448
185 MB	3.5" 3yr warr, 50,000 MTBF	\$498	\$568
330 MB	3.5" 5 yr warr., 200,000 MTBF*, 9ms Access	\$1138	\$1238
425 MB	3.5" 5 yr warr., 200,000 MTBF* 9ms Access	\$1188	\$1288
520 MB	3.5" 5 yr warr., 200,000 MTBF* 9ms Access	\$1258	\$1358
680 MB	5.25" 16ms 5yr warr, 200,000 MTBF*	\$1288	\$1388
1.2 Gig	5.25" 11.5ms 5yr warr, 200,000 MTBF* (MacWorlds Fastest!)	\$1988	\$2088

Introducing Hitachi Drives

		Internal	External
420 MB	3.5" 5 yr warr. 13ms 150,000 MTBF*	\$998	\$1098
1.6 Gig	5.25" 5 yr warr. 12ms 150,000 MTBF*	\$2798	\$2898

* Mean Time Between Failure is the average life expectancy of a drive.

DAT Tape Backup

WangDat 2.1 Gig Capability	\$1498
ArDat 2.1 Gig Capability	\$1398

- Up to 10 mb per minute backup time
- Includes SoftBackup II for Fast network and unattended backup capabilities

SyQuest 44MB & 88MB Removables

44MB Removable	\$448.00
88MB Removable	\$648.00

- 19ms Access time
- Both Drives include Cartridge
- Dual AC Outlets, 40 Watt power supply
- SCSI Select and 2 Year Warranty

800K Floppy \$99

- Fujitsu 800K\$99
- One year warranty
 - Completely compatible
 - Looks great!

CD ROM Drives

- Toshiba 3301\$568
- Includes driver CD carrier and cables
 - 325ms access time
 - MacUser and MacWorlds top rated CD-ROM!
- Chinon CDC-431\$598
- Includes driver CD carrier and cables,
 - 350ms access time, includes 12 function audio remote control



Sharp 35 Font Postscript Printer

JX-9500PS 35 Font Printer \$1298!

- Includes Appletalk Interface
- 35 Adobe Postscript Fonts
- 6 Pages per minute, 300 DPI
- Letter, legal and transparencies
- 1.5mb memory
- Sharp is the manufacturer of the TI MicroLaser Engine

Quantum Drives

	Internal	External
Q 52 MB 3.5" LPS	\$248	\$338
Q 105 MB 3.5" LPS	\$368	\$448
Q 120 MB 3.5"	\$448	\$548
Q 170 MB 3.5"	\$598	\$688
Q 210 MB 3.5"	\$688	\$748
Q 425 MB 3.5"	\$1298	\$1398

14" Monitors!

14" GoldStar Color	\$368
14" NEC Color	\$438
14" Sony Trinitron	\$498

The GoldStar 14" is plug compatible with the LC, IIsi and the CI.
The MacSync is plug compatible with the IIsi and the CI.
The Sony 1320 Trinitron is LC compatible.

19" Monitors!

20" Philips Color System	
W/RasterOps 8Bit 8XL	\$1498
W/National Semi. 24Bit	\$2298
19" Trinitron Color System	
Ikegami CT-20 W/RasterOps 8Bit	\$2398
W/National Semi. 24Bit	\$3198
19" Ikegami Grey Scale Sys.	\$1098

All monitor systems except NEC, Sony & GoldStar include interface board and cable.



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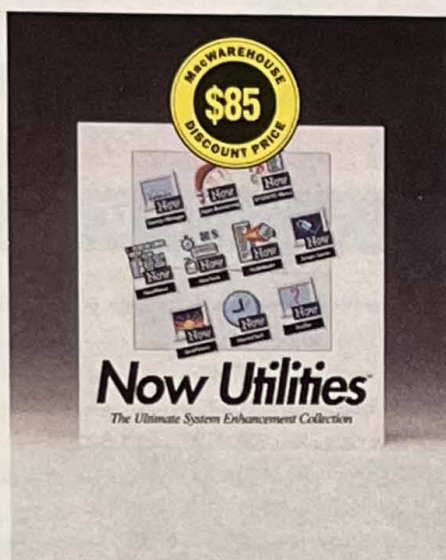
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THE CORPORATE SOLUTION



FolderBolt

(Kent Marsh) "FolderBolt compliments the desktop. Subtle yet sensible. Takes the edge off security. Redefines standards." MacTutor July 1991. Simply shift-click to create completely locked folders, read-only folders, or drop folders. Once locked they can't be opened, duplicated, deleted or moved until you double-click & provide the password. Features complete unlocking at start up, activity logging, and locking at shutdown. Includes full administrator override. FolderBolt is a welcome addition to the Mac security arsenal MacWeek June 1991. The only desktop security that's System 7 Savvy. UT10212 FaxFACTS 6549



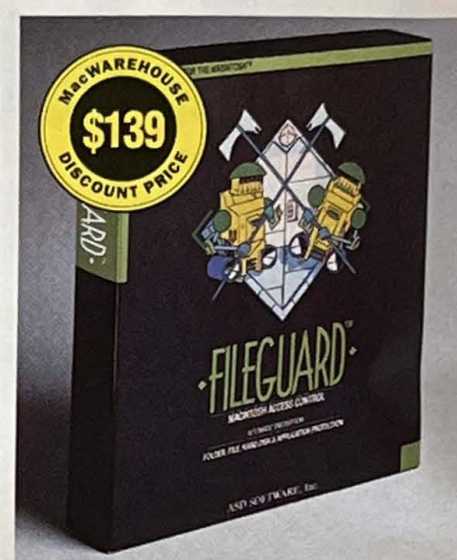
Now Utilities 3.0

(Now Software) Now Utilities is a collection of 10 system enhancements that make your Macintosh faster, easier, and more fun to use. For example: Super Boomerang™ provides instant access to all your files and folders, WYSIWYG Menus™ unites font families and displays them in their own typeface, NowMenus™ creates submenus for everything in your Apple Menu, and StartUp Manager™ provides complete extension management. No wonder April 1991 MacUser called it, "a must have for experienced users and novices alike." UT10167 FaxFACTS 6576



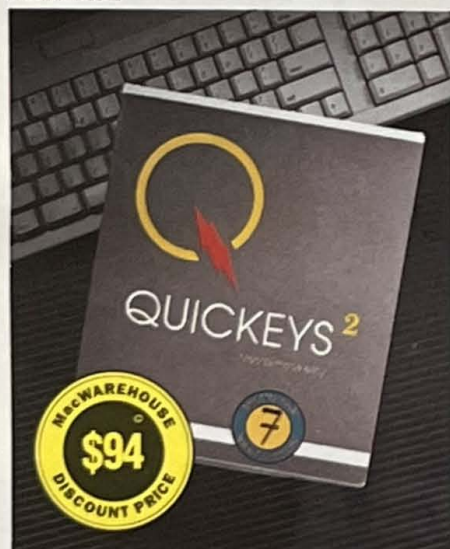
FastCache II

(DayStar) Speed-Up your software & double the expansion slots in your Mac IIx! DayStar's FastCache II will make everything your software does up to 45% faster and is 100% compatible! This 64K Static RAM cache card is perfect for spreadsheets, graphics, and databases. Also included is DayStar's DualPort adapter. It provides a full-functional PDS slot and a IIci cache slot for the FastCache. An optional math chip can also be added to make spreadsheet recalcs and scientific applications fly. DR10421 FaxFACTS 4934



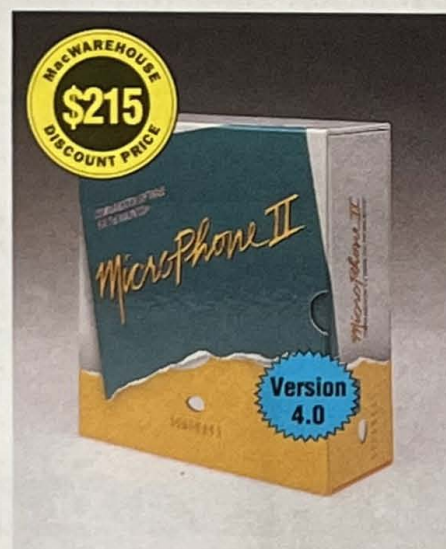
FileGuard 2.7

(ASD Software) "It's sleek, fast, and safe. I highly recommend it." MacUser April, 1991. Protect your Hard Drives and Partitions from unauthorized access (including security bypass with a system diskette), copying and erasure, Applications and File/Folders (including system folder) from unauthorized access, deletion, and/or illegal copying; Desktop (including system folder) from alterations by unauthorized user; Keep an eye on System Usage with the system users log which continuously tracks user/group activity. System 7.0 compatible. UT10135 FaxFACTS 6806



QuickKeys 2 v.2.1

(CE Software) Facilitates data being sent between applications, applications being launched, commands being executed, calculations made, and data returned to the user all without leaving the user's current working documents. Its 32-bit clean, and Apple Events Extensions and balloon help make it a System 7 Savvy product. Put macros into a menu so they work like a part of the application. QuickTimer activates macros at pre-set times and dates. With QuickKeys extensions you can write your own functions, or import specially written extensions for your favorite applications. UT10188 FaxFACTS 6529



MicroPhone II 4.0

(Software Ventures) Provides all the communications power you need, but with a friendly user interface. Scripting allows you to automate routine sequences of commands, and now includes many new commands as well as tools for editing and debugging. All MicroPhone II operations just got speedier, with faster script execution and increased screen speed. Major support for System 7, with Apple events, Publish and Subscribe, Comm Toolbox, Balloon Help, and HyperCard 2.0 XCMDs and XFCNs. Runs on Apple's Powerbook computers and Quadras, and is portable with your Windows or NeXT version of MicroPhone II as well! VT 220/320 added. COM0094 FaxFACTS 1799



GuardCard

(Kent Marsh) Install GuardCard on your Mac/SE or SE/30 for the peace of mind that hardware-based security can bring. GuardCard's foolproof, hardware-based security is unique! It's simple to install, and prevents unauthorized access to your Mac by interrupting the normal boot process to ask for a password...and because it's a hardware board, it cannot harm your data or cause init conflicts. No one can reformat, erase or "hack through" your internal hard disk or even use the Mac itself. Without a password, internal hard disks, ports, floppy drives and network connections are all disabled. A perfect deterrent to theft or abuse...and it's fully System 7.0 compatible. UT10223 FaxFACTS 6557

WKA21

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Call now for your FREE copy of the MacCorporate Guide.

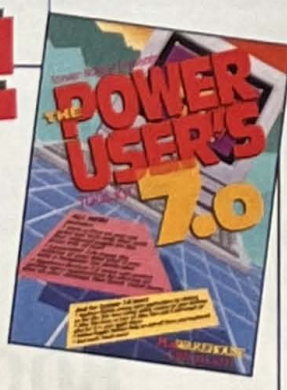
Jennifer

I'm Jennifer, Customer Service Manager



FREE!

The NEW Power User's Tool Kit 7.0 is FREE from MacWAREHOUSE when you order from us. If you want the disk, ask for product code number AAA0013. You pay only \$1.50 for shipping and handling. The programs are shareware, so you can try them free of charge. If you wish to continue using them, some authors ask that you pay a small fee (\$5-\$25). All the details are explained on the disk, which is yours to keep.



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WHOLESALE HARD DRIVES

Quantum

		internal	external
52LPS	9ms	\$209	\$269
105LPS	9ms	\$329	\$379
210PRO	10ms	\$615	\$675

PRO series drives are 3.5" half-height.
LPS series drives are 3.5" Low Profile.

Maxtor

		internal	external
80Mb	17ms	\$269	\$329
125Mb	15ms	\$349	\$429
210Mb	15ms	\$589	\$649
340Mb	14ms	\$939	\$999

CONNER

		internal	external
200Mb	16ms	\$599	\$655

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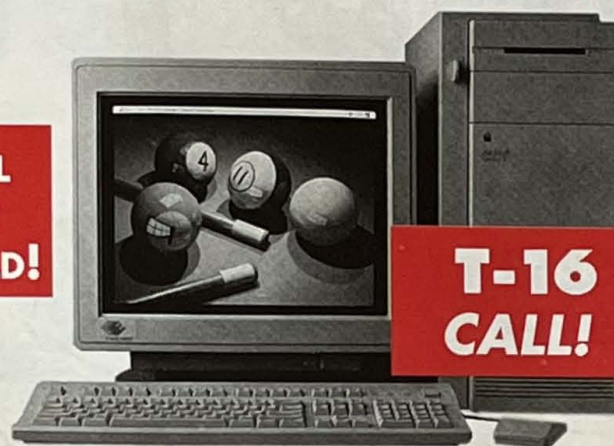
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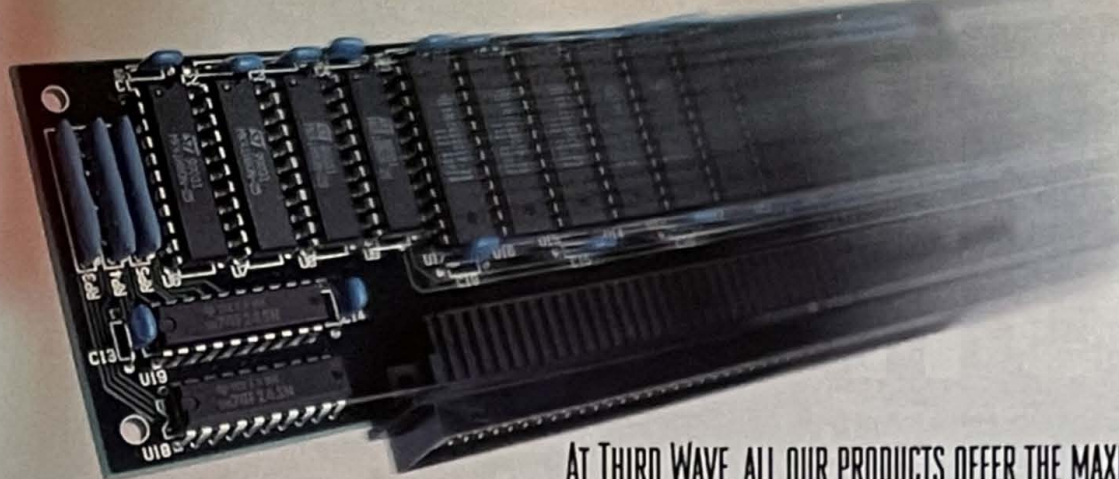
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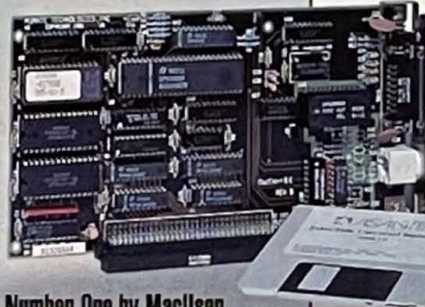


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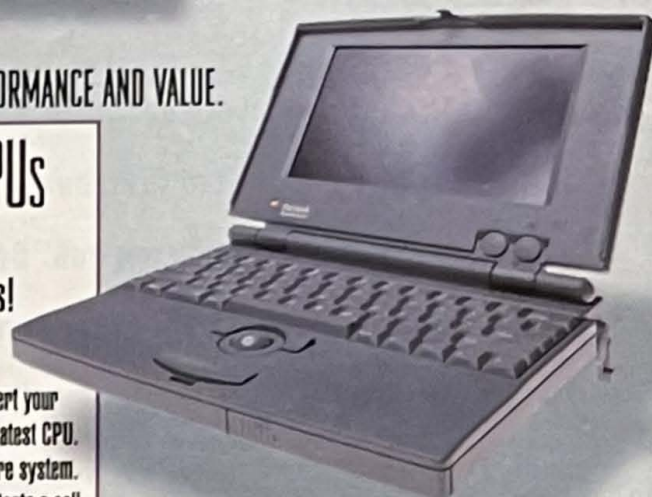
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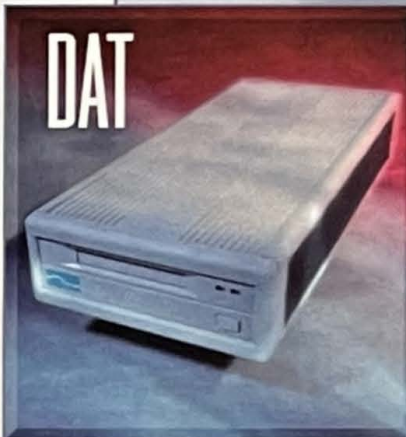
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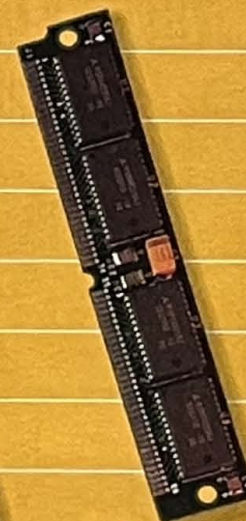
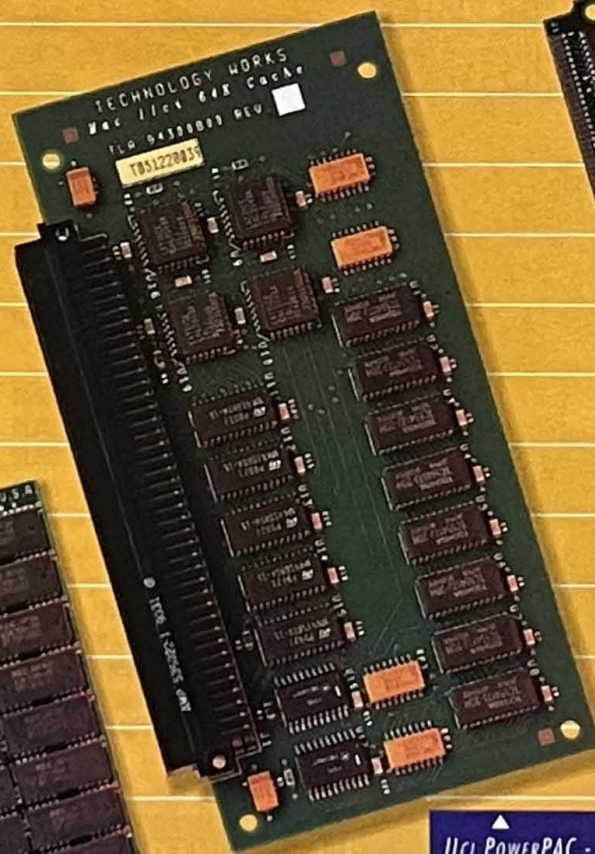


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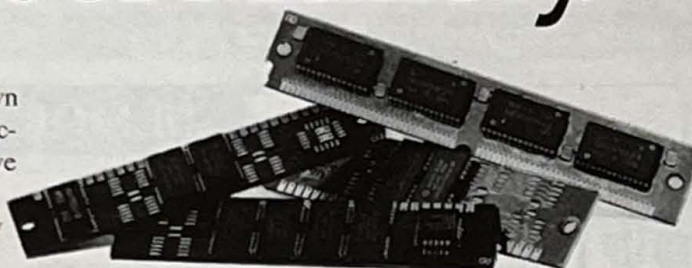
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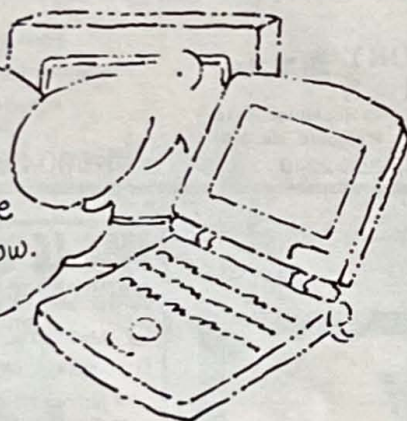
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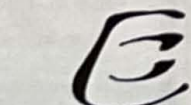
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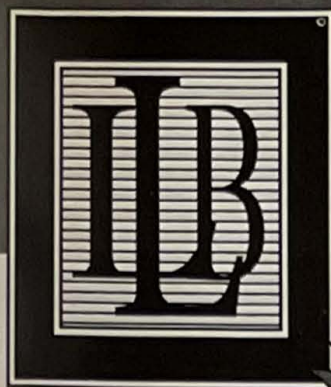
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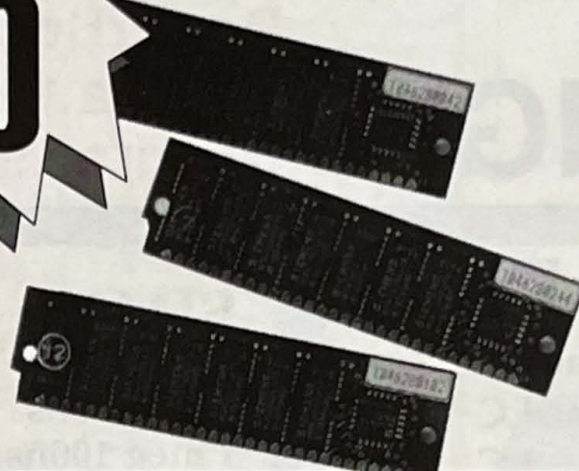
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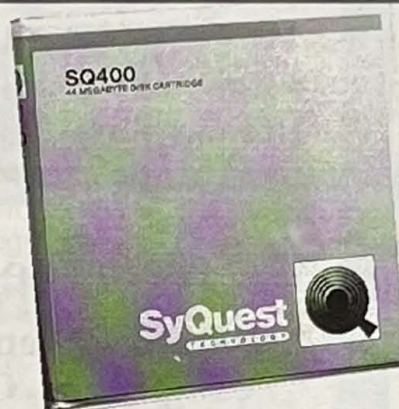
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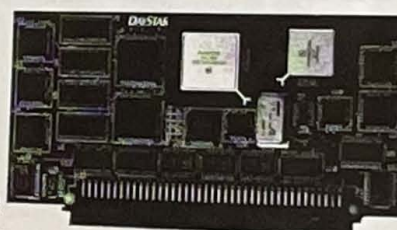
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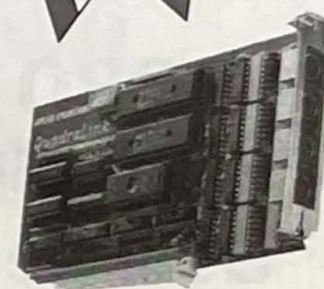
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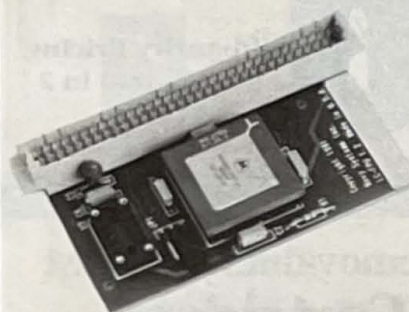
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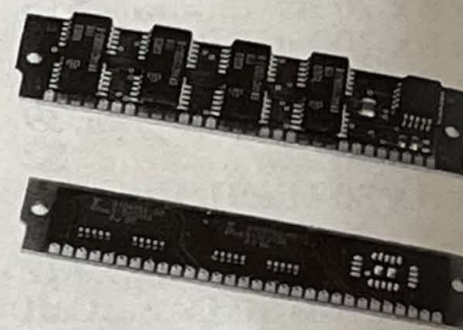


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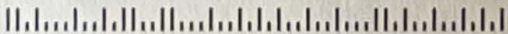
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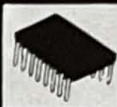
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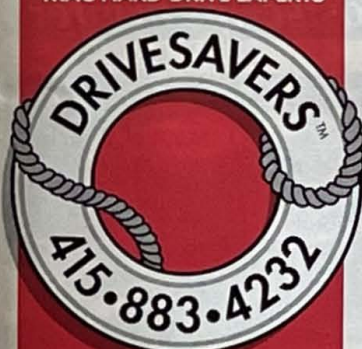
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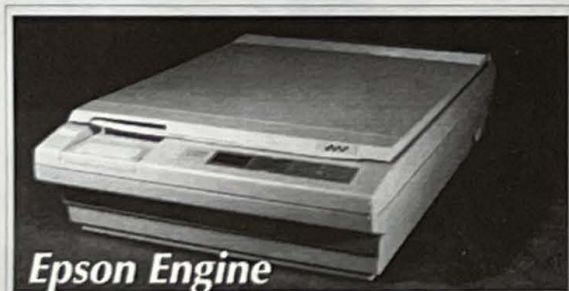
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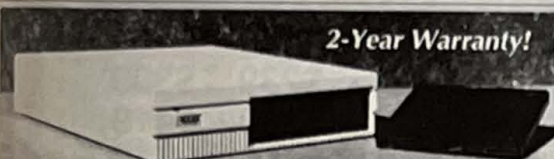
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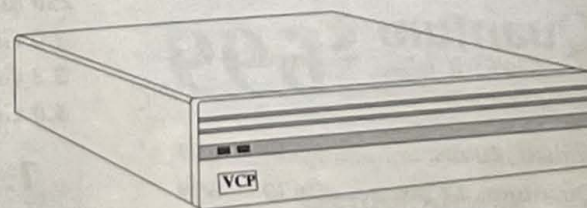
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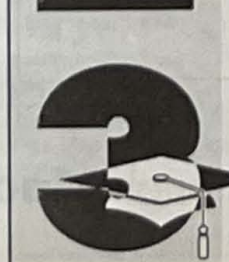
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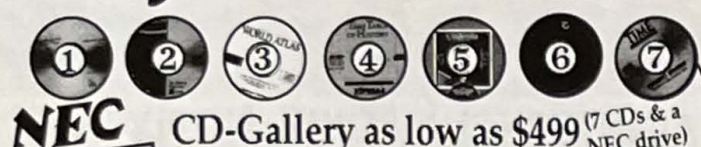
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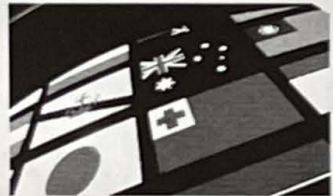
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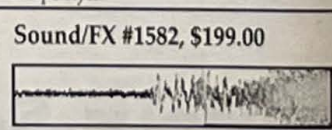
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Requires a minimum of 2 years' experience designing, installing and maintaining Macintosh* networks; experience supporting users with applications; and background in a wide variety of Macintosh software, including electronic mail. Familiarity with Macintosh hardware, telephone systems, UNIX, and TCP/IP, desired; BS degree preferred.

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• **Mechanical Engineer** – to design and execute modern, efficient packaging for computer and audio equipment. B.S. in Mechanical Engineering and experience in packaging computer related equipment. Mechanical drafting/design abilities necessary.

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BUSINESS WATCH

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Hayes flexes modem muscle

By Mitch Ratcliffe and Margie Wylie

San Francisco — Hayes Microcomputer Products Inc. is pressing Apple to modify the modem built into the PowerBook 170.

The Norcross, Ga.-based modem maker claims the PowerBook modem causes accidental disconnections and botched file transfers because Apple, in an effort to avoid paying royalties to Hayes, used a modem chip set that doesn't fully implement industry standards.

Hayes said modems must conform to the escape sequence defined by the Heathington 302 patent, which the company owns, to maintain reliable communications.

In press interviews in recent weeks, the company's president, Dennis Hayes, has charged that the modem may violate the patent, even though it doesn't fully implement the escape sequence.

Last year Hayes won multimillion-dollar settlements from several modem makers who used a chip set that Hayes said is the same as the one in the PowerBook modem.

The chip set, made by San Jose, Calif.-based Sierra Semiconductor Corp., uses the same +++ sequence as Hayes, but without the surrounding "guard times" spelled out in the Heathington patent.

The modem is standard in the PowerBook 170 and an option for the 100 and 140.

To bolster its defenses against the threat of a lawsuit, Apple is modifying the Macintosh Communications Toolbox, sources said. Instead of the escape sequence, the new version of

See Hayes, next page

Windows may close if Apple wins lawsuit

By Jon Swartz

San Francisco — A win by Apple in its copyright-infringement lawsuit could abruptly close Microsoft Corp.'s Windows of opportunity.

A victory in the 3-year-old suit, which many legal experts agree looks likely, could present Apple with a variety of options, depending on the details of the verdict.

Most say a ruling in Apple's favor could force Microsoft to make substantial changes in Windows, or conceivably even suspend shipments. At the very least, Apple's strong case could force Microsoft into a costly settlement.

There is also the possibility Apple would license its interface technology exclusively to partner IBM Corp.,

effectively leaving Windows and Hewlett-Packard Co.'s New Wave in limbo.

Apple is accusing Microsoft and HP of illegally copying critical portions of the Mac interface. The case was broadened last summer to include Windows 3.0 (see MacWEEK, June 25, 1991).

Whatever its strategy, an Apple victory would surely spark another round of legal wrangling, which could force users to think twice before making large-scale purchases of Windows, analysts observed.

But this is no ordinary copyright suit, as a small army of attorneys and an estimated \$20 million spent on legal fees attest. Microsoft is expected to make several motions next



month to U.S. District Judge Vaughn Walker here to have the case thrown out. An Apple spokeswoman, however, said the computer maker expects the case will go to trial in the spring.

Analysts, such as Jeffrey Tarter, editor of Soft•Letter in Watertown, Mass., and Michael Murphy, editor of the Overpriced Stock Service of Half Moon Bay, Calif., are convinced Apple will follow through with an injunction to block the sale of Windows 3.0 — which should top 10 million copies this year.

"Money is irrelevant (in this suit)," Tarter said. "The goal is to weaken — no, kill — the competition."

"It's going to be bloody," Murphy warned in a recent article where he predicted an Apple victory.

Copyright lawyers, however, speculate the damage to Microsoft will be limited by a pre-existing licensing agreement between the Redmond, Wash.-based company and Apple for some of the Mac's interface elements. Microsoft Chairman Bill Gates has said any changes

See Suit, next page

New Era cites theft, mismanagement, but says nuBASE update on track

By Jon Swartz

Miami — New Era Software Group Inc., reeling from the recent theft of \$40,000 in equipment and months of mismanagement, will try to recover its footing with two new product introductions this month.

New Era, which bought dBASE Mac from Ashton-Tate Corp. in 1990 (see MacWEEK, July 31, 1990), was bilked of funds and had a \$12,000 phone system stolen when CEO Dean Meyers was on special assignment abroad.

There have been no arrests in the case, and New Era has no immediate plans to file legal action.

"When I got back (in late November), anything that wasn't nailed down was taken," Meyers said. "Bills hadn't been paid. Customer support was non-existent. Macs were missing."

Meyers' first act upon returning to his software company was to fire longtime Mac entrepreneur Sal Patalano, who was running the company in Meyers' absence.

Patalano was formerly CEO of Target Software, a Miami-based software developer that folded in 1988 amid legal and financial problems.

Patalano could not be reached for comment.

New Era plans to release a major performance upgrade and a multi-user version of nuBASE, the latest incarnation of dBASE Mac, on Jan. 15. nuBASE Pro 1.5 costs \$295 but will be available free to current users. nuBASE LAN will be priced at \$495.

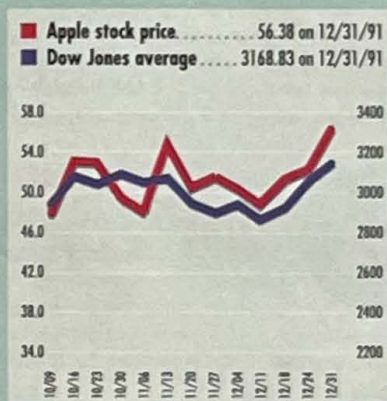
New Era also has approached Serius Corp. of Salt Lake City to distribute its products, although Serius CEO Joe Firmage said talks are in the preliminary stages.

New Era Software Group Inc. has moved to 10261 Southwest 142nd St., Miami, Fla. 33176. Phone (305) 253-9033; fax (305) 672-2778. nuBASE users can also call (800) 677-4450 for more information. □

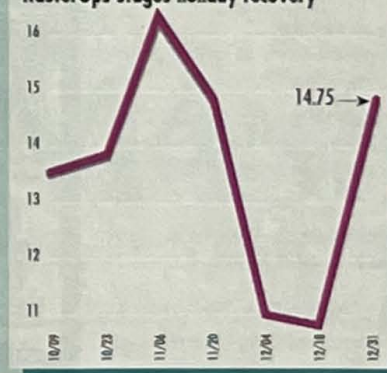
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RasterOps stages holiday recovery



After a somewhat bumpy ride the past few months, caused mostly by a shortfall in its fiscal 1992 first-quarter results (see MacWEEK, Oct. 15, 1991), RasterOps' stock rallied and

gained ground over the holidays. The display vendor got the best possible Christmas present under its tree when its stock shot up more than 42 percent to close Dec. 31 at \$14.75 a share.

MacWEEK index

THE FUTURE OF THE FONT MARKET

Estimated retail sales (in millions of U.S. dollars) of computer fonts for the worldwide market from 1990 to 1993. These figures do not include revenue from fonts bundled with printers or system software.

Product type	1990	1991	1992	1993
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PostScript	\$16	\$27	\$39	\$49
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SOFTWARE-BASED				
Bit mapped	\$36	\$46	\$49	\$45
PostScript	\$33	\$51	\$72	\$94
Other (TrueType)	\$18	\$30	\$39	\$57
Totals	\$195	\$270	\$327	\$376

Source: Computer Intelligence

Delrina secures rights to BackFAX

By Nathalie Welch

San Jose, Calif. — Delrina Technology Inc. has secured exclusive rights to Solutions Inc.'s BackFAX software.

BackFAX 2.0, a new System 7-compatible version, will be released under the Delrina name by the end of this month, according to the company. The program enables users to

send and receive faxes in the background.

Before releasing BackFAX 2.0, Delrina plans on adding Class I and II support that is currently available in its WinFax PRO for Windows.

Delrina, an IBM PC and compatible fax software developer, cited increased growth in the fax market and its desire to offer products

on multiple platforms for its decision to enter the Mac market.

Pricing and a ship date for BackFAX 2.0 have not been announced.

Solutions, a longtime player in the Mac communications and utility software market, ceased active operations at the end of 1991 and is negotiating the sale of the remainder of its product line, which includes SuperGlue II print-to-disk driver and SmartScrap & The Clipper graphics utility (see MacWEEK, Dec. 3, 1991).

"Hopefully, we will continue finding homes

— like Delrina — that are a good fit for our products," said Solutions Chairman Tom Evslin.

BackFAX 1.5.1, the current version of the software, is sold with products from Relisys of Milpitas, Calif., and Prometheus Products Inc. of Tigard, Ore., among others. A send-only version, called BackFAX/Send Only, is priced at \$149.

Delrina Technology Inc. is at 6830 Via Del Oro, Suite 240, San Jose, Calif. 95119. Phone (408) 363-2345 or (800) 268-6082; fax (408) 363-2340. □

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With the introduction of BeagleWorks, the true meaning of integrated software has finally been defined. BeagleWorks includes seven modules: **Word Processor, Database, Spreadsheet, Chart, Paint, Draw and Communications.**

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Exclusive to BeagleWorks is the revolutionary technology called **In-Context Editing™**. This gives you the ability to access one file from within another simply by double-clicking. For example, if you have placed a graphic from a paint file into a word processor document and decide to make a change, all you need to do is double-click on the graphic in the word processor. The Paint tools are added to the tool bar, the graphic becomes active and any changes you make are also made to the original file.

The word processor features irregular text wrap, multiple columns anywhere on a page and a spelling checker and thesaurus. The Paint and Draw modules let you use up to 256 colors. The Spreadsheet boasts an automatic sum tool, as well as in-cell editing.

BeagleWorks has many other powerful features found in stand-alone programs. It's easy to use, yet you won't outgrow its capabilities. And since it requires only one megabyte of RAM, BeagleWorks is an excellent solution for any Macintosh user.



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Integrated Software: Who Leads The Pack?

	BeagleWorks™	ClarisWorks™	GreatWorks™	Microsoft Works™
System 7 Savvy	YES	NO	NO	NO
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Paint module	256 Colors	NO	Black&White	NO
Common tool bar w/module-specific tools	YES	NO	NO	NO
Automatic irregular text wrap	YES	NO	NO	NO
Multiple columns can be turned on/off anywhere on the page	YES	NO	NO	NO

Champion Breed

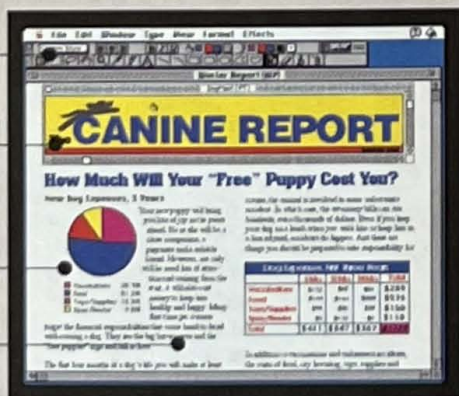
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Novell becomes Serious financial, tech booster

Salt Lake City — Serious Corp. is getting serious financial and technological backing from networking giant Novell Inc.

Serious last month announced it received \$1.5 million from venture capitalists, including \$700,000 from Novell of Provo, Utah.

According to Serious CEO Joe Firmage, the Novell deal consists of the investment and collaboration on future projects. Firmage, who is 21, said that a Novell executive would be joining his company's board.

"It's a fundamental validation of the direction we're heading, and we're happy to welcome Novell into the operation," Firmage said. "Serious is involved in object technology, and certainly Novell has a vested interest in that technology." □

Hayes

From previous page

the Toolbox reportedly will use an alternative approach called out-of-band modem control, which establishes a second connection to the modem to switch from data to command mode. But that solution is reportedly months from shipping.

Telecommunications developers said the PowerBook 170 modem has caused intermittent file transfer failures, even when using the PowerBook Modem Tool that is bundled with its system software.

"I told Apple [the escape sequence] is obviously a fix thought up by a lawyer — not an engineer," said one telecommunications developer. "[The PowerBook 170 modem] is not going to work reliably."

"I don't think this is a big deal," countered Apple spokesman John Cook. "I understand Hayes' decision to protect its standard. We're not infringing their patent. We are compatible."

Hayes said Apple has not discussed licensing its technology for the PowerBook 170. He said his company would seek royalties of about \$1 per PowerBook. □

Suit

From previous page

forced by a court decision would be cosmetic and could be made quickly.

It's likely, noted G. Gervaise Davis III, a partner in the law firm of Davis & Schroeder in Monterey, Calif., that deep-pocketed Microsoft, which generates an estimated \$100 million in cash each quarter, would pay damages to avoid taking Windows 3.0 off the market.

Charles Wolf, vice president of equity research at First Boston Corp. in New York, said Apple could easily collect as much as \$500 million in license fees, based on Windows 3.0's projected sales over the next several years. □

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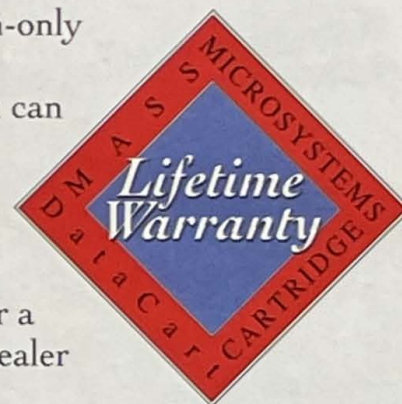
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SyQuest

DP-WK0106

16-inch

From Page 1

► **E-Machines Inc.** of Beaverton, Ore., will complement its existing 16-inch display line with the ColorLink SX/T, a \$1,495 NuBus card that combines accelerated 24-bit color for 16-inch monitors with a built-in Ethernet port. The company also will offer the \$995 ColorLink EX/T, a version of the card for 13-inch monitors.

► **Mirror Technologies Inc.** of Minneapolis will show its new Mirror 16-inch

Trinitron Display, now shipping for \$1,299. The company is also offering eight-, 16-, and 24-bit video cards for the display for \$400, \$500 and \$1,000, respectively. Mirror is expected to introduce another 16-inch color monitor for less than \$1,000 by March.

► **RasterOps Corp.** of Santa Clara, Calif., will introduce its Sweet 16 System for \$2,495. The system, which comes in both NuBus and Quadra versions, includes a 16-inch monitor and 24-bit-color graphics cards.

► **SuperMac Technology** of Sunnyvale

Calif., will roll out its SuperMatch 17 Multimode Color Display for \$1,199 (see MacWEEK, Dec. 17, 1991).

► **Seiko Instruments USA Inc.** of San Jose, Calif., will unveil its CM1760LR, a 17-inch multifrequency Trinitron color monitor for \$1,599.

And although Toshiba America CP Inc. of Buffalo Grove, Ill., won't be at the expo, it recently introduced its P17CU01, a 17-inch flat square color monitor for \$1,700.

Heated competition in the 16-inch color

monitor market is driving prices down toward the \$1,000 mark, making the size more accessible to users who would otherwise buy 13-inch displays.

"Sixteen-inch monitors are in a price range that a whole lot of budgets can afford," said Bruce Burkhart, head technologist at Lawrence Berkeley Laboratory in Berkeley, Calif.

Burkhart said his lab has purchased more than 50 E-Machines 16-inch displays for its scientists and office staff. He said the 70 percent additional screen real estate that 16-inch monitors have over 13-inch displays gives office workers enough space to accommodate multiple word processing documents, large spreadsheets, electronic-mail windows, mainframe connection windows, floating palettes and finder icons.

E-Machines now holds more than 90 percent of the Mac 16-inch market by selling more than 2,000 16-inch monitors a month. E. Michael Loftus, E-Machines vice president of marketing, predicts that Apple's entry into the market will soon increase the 16-inch category more than fivefold.

Hartsook predicted that all new Mac models will include on-board video for 16-inch displays, following in the path of the Mac Quadras. □

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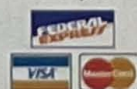
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RAM	2 to 4 MB	2 to 8 MB	4 to 14 MB	2 to 8 MB	4 to 14 MB	4 to 8 MB
Upgradeable CPU & Hard Disk	Yes	No	Yes	No	Yes	No
Silicon Disk Memory (RAM)	0 to 12 MB	0 to 6 MB	0 to 60 MB	0 to 6 MB	0 to 60 MB	0 to 6 MB
Hard Disk Drive	40, 80 or 120 MB	20 MB	40, 80 or 120 MB	20 or 40 MB	40, 80 or 120 MB	40 MB
Math Coprocessor	None	None	Optional 68881	None	Optional 68881	68882
Internal Floppy Drive	1.4 MB SuperDrive*	None	1.4 MB SuperDrive*	1.4 MB SuperDrive™	1.4 MB SuperDrive*	1.4 MB SuperDrive
Virtual Memory Capability	None	None	None	Standard	Standard	Standard
Display	10" Dia., 640 x 480	9" Dia., 640 x 400	10" Dia., 640 x 480	10" Dia., 640 x 400	10" Dia., 640 x 480	10" Dia., 640 x 400

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See us at Macworld booth 51.

Toolbox

From Page 1

has been available since 1989, tools that fulfill its promise have been slower in coming.

The as-yet-unnumbered update will support data compression (MNP levels 1 through 4 and V.42), error correction (MNP 5 and V.42bis) and hardware flow control in modems that include the features, sources said. It should be available for general distribution in the first quarter of this year, according to sources. Apple refused comment.

An updated Modem Tool may assuage user complaints, but developers are less sure that it signals any change in Apple's sagging Comm Toolbox efforts. The fact that the update will be beta tested informally by current Comm Toolbox users rather than going through a formal round of testing inside Apple inspires little confidence that the project is getting much support at Apple, sources said.

Developers and users complain that Apple has relied too heavily on slower, less-committed third parties to support its own system software-level approach to communications. Meanwhile, the few tools Apple has provided have been inadequate.

"Apple's file transfer doesn't provide error recovery," said Paul Derby, director of technical services for Blyth Software Inc. and one user who is treading the bleeding edge in order to get faster remote access with the Comm Toolbox and QuickMail 2.5.

Derby is using an unannounced update to the Apple Modem Tool, shipped with Mac PowerBooks in October, and a beta version of a file transfer tool from Sequest Software Inc. of Portland, Ore., to boost remote QuickMail throughput. The Apple Modem Tool he uses supports high-speed modem features, but is designed to work exclusively with the PowerBooks' internal modem and is not recommended for other uses, according to Apple. Sequest's file transfer tool offers error recovery and other more sophisticated file transfer capabilities, but the company is not yet selling the product.

For Derby and others like him, the official update should be welcome news. "There are literally hundreds of thousands of QuickMail users struggling with [the Comm Toolbox] right now," said Derby. "The answer is more, better tools." □

Storage Dimensions' 2FAST gets SCSI up to speed

By Henry Norr

Milpitas, Calif. — Fast SCSI has been, well, slow to make its mark on the Mac desktop, but it could start picking up steam next month, when Storage Dimensions expects to begin shipping its 2FAST family.

The series, which the company calls "the first complete Fast SCSI-2 solution" for the Mac, will consist of drives and interface cards that support Fast SCSI, a transfer technique that allows burst transfers at up to 10 Mbytes per second.

While high-performance drives recently introduced by several manufacturers support Fast SCSI, current Macs, even the new Quadras, do not. Nor do most third-party SCSI accelerator cards.

But Storage Dimensions this week will introduce its third Fast SCSI controller card, the Data Cannon PDS/Quadra for the 68040-based machines' direct slot. The card is slated to ship by the end of next month at \$1,099, along with the previously announced \$999 Data Cannon 2 for NuBus. The Fast SCSI Data Cannon PDS/FX for the Mac IIx's direct slot is available now at \$849.

As bus-master coprocessors, the cards boost Mac performance not only by speeding burst transfers, but also by freeing the Mac CPU of disk I/O management.

The 2FAST series will include Fast SCSI drives in capacities ranging from 240 Mbytes to 2 Gbytes. The smallest member of the

family, the Mac240F-I, is a 1-inch-high 3.5-inch Seagate drive; it will be available as an internal drive, priced at \$1,509, for any desktop Macintosh model, or in external form for \$1,859.

At the other extreme will be the Mac 2025F-I, a full-height, 5.25-inch Seagate Elite 2 drive, which will be offered in a \$9,999

external version and a \$9,399 internal version for the Quadra 900.

The company will also offer internal and external units that incorporate standard-height 3.5-inch mechanisms with capacities of 510 Mbytes and 1 Gbyte, plus a 5.25-inch Elite 1-Fast mechanism with a capacity of 1.3 Gbytes. Prices for those capacities range from

\$3,299 to \$8,419. The 1.3- and 2-Gbyte mechanisms will also be offered in two- and four-drive external subsystems.

Average seek times for the drives are rated at 11 to 14 milliseconds; sustained transfer rates range from 2.5 to 5 Mbytes. Shipments are scheduled to begin by the end of next month, except for the 2-Gbyte model, which is due in March.

Storage Dimensions is at 1656 McCarthy Blvd., Milpitas, Calif. 95035. Phone (408) 954-0710; fax (408) 954-0517. □

Q&A

From Page 1

Database layouts also can include pop-up menus, check boxes and radio buttons. Q&A Mac reportedly will come with a fairly sophisticated programming language, which can be used to look up data in other Q&A databases or even FileMaker databases.

Q&A Mac also supports a variety of customizable reports. There are two basic types: Quick Reports, where data is organized in columns that can be rearranged by clicking and dragging, and Free Form Reports, which let users create non-standard formats, such as invoices or payroll forms.

Another key Q&A feature is Specs, or frequently used sequences users can save and even add to a pull-down menu.

Where Q&A database departs from FileMaker is its interface, sources said. It has five database views, including two separate views for designing and customizing a database. Much of the interface makes concessions to compatibility with the DOS version; there are even "execute" buttons on some tool palettes.

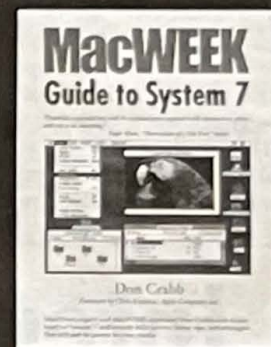
► **Q&A Write.** The program's word processor, which sources described as functionally similar to T/Maker Co.'s WriteNow, includes a spelling checker, thesaurus, footnoting, multiple columns, and, like the database side of the product, extensive import and export capabilities via Claris' XTND file-translation software. Q&A is expected to ship with a wide variety of translation filters, including a filter for translating Lotus 1-2-3 files.

The primary purpose of Q&A's word processor, sources said, is to give users the ability to do mail merges without having to leave their database application.

Although pricing hasn't been set, sources said Q&A Mac should retail for about the same as the DOS version, which is priced at \$399. □



Work the System...

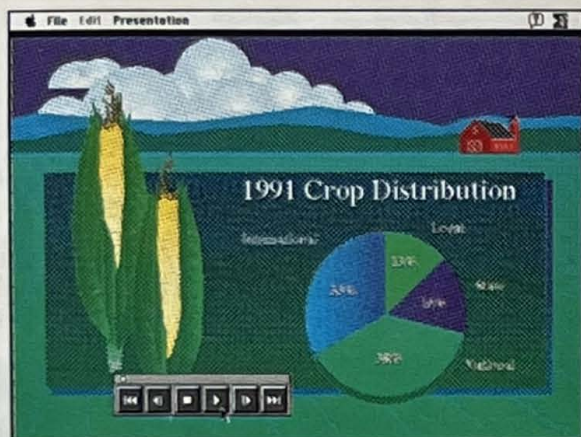


Don Crabb, the leading expert on Macintosh and popular *MacWeek* columnist, will be signing copies of his new book, *MacWeek Guide to System 7* at MACWORLD Expo San Francisco 1992. Expertly written and illustrated, this book is your guided tour of the completely reworked Macintosh environment.

Meet Don on Sunday, January 12 at 1 PM at the *MacWeek* Booth #1923.



Aldus Persuasion 2.1 ships with the Persuasion Player, a free runtime application that lets Mac or Windows users play slide shows created in either the Mac or Windows version of Persuasion.



Persuasion

From Page 1

TrueType and System 7's virtual memory.

Persuasion remains priced at \$495; upgrades are \$50.

Observers said Aldus' upgrade blitz showed a company scrambling to play catch-up with the competition, particularly its nemesis in the desktop publishing arena, Quark Inc. of Denver.

"Quark has stolen the heart of the professional marketplace away from Aldus," said Jonathan Seybold, publisher of the Seybold Reports in Malibu, Calif. "Now Aldus wants those guys back."

"This has been a tough year for Aldus," said Glenn Powers, vice president at the Seattle branch of

Dain Bosworth, a Minneapolis-based investment firm. "In the past six months, Aldus has gone from 30 or 40 percent growth rate to a 10 percent growth rate. The new products should revive some of that growth."

Aldus said it is merely living up to its new slogan, "Aldus Delivers." "In the past 12 months, we've upgraded or extended our entire set of software," said Pam Miller, Aldus public relations program manager.

"Across the board, we're showing our commitment to graphics professionals and business communicators," Miller said.

Aldus Corp. is at 411 First Ave. S., Seattle, Wash. 98104-2871. Phone (206) 622-5500; fax (206) 343-4240. □

Word 5.0

From Page 1

based in Lambertville, N.J., called 5.0 the "best Word version yet. The spelling and grammar additions are first-rate."

Other users, such as Steve Bevan, a systems support analyst at ASK Computer Systems Inc. of Mountain View, Calif., praised the program's new open architecture. Users will be able to add new features by dropping in modules offered by Microsoft Corp. and third parties, or remove some features shipped with the product to make it run on low-memory Macintoshes.

Plug-ins that add QuickTime support and WordBASIC, an integrated programming language, were originally expected this quarter, but Microsoft last week said the two modules would ship "within six months." Pricing and other details have not yet been determined.

Word 5.0 requires a minimum of 1 Mbyte of RAM, but 2 Mbytes are recommended in general and are required for running the grammar checker; under System 7, 4 Mbytes are required to use the grammar checker.

Although the upgrade is free to customers who bought Word 4.0 after Nov. 1, 1991, others will have to pay \$129 to move to the new ver-

sion — a figure that could put it out of reach of some users. "We're under severe budget constraints," said the Peace Corps' Cory, who oversees 600 Macs. "Unless we work out a corporate discount, our hands are tied."

"The improvements are mind-blowing," said Michael Yeager, co-founder of A. Michael's Piano Inc. of Waterford, Conn., the largest piano retail outlet in the United States. "It's the trend of companies ripping off users with expensive upgrades that disturbs me."

Microsoft has scuttled a planned "competitive upgrade" offer, which would have let users of MacWrite, WordPerfect, Nisus and WriteNow switch to Word 5.0 for \$129. One company representative said the switch came in response to complaints from Word users; another said Microsoft simply decided that the offer was unnecessary in light of repeated delays in Claris Corp.'s release of MacWrite Pro.

For Mac Quadra owners who choose not to upgrade, a version of Word 4.0 that works with the 68040 caches enabled is now scheduled for release as a free upgrade late this month.

Microsoft Corp. is at 1 Microsoft Way, Redmond, Wash. 98052. Phone (206) 882-8080 or (800) 426-9400; fax (206) 936-7329. □

SuperMac hooks notebooks, video

By Raines Cohen

Sunnyvale, Calif. — SuperMac Technology will open its line of video products to PowerBook users with the announcement next week of LookingGlass, a SCSI display controller.

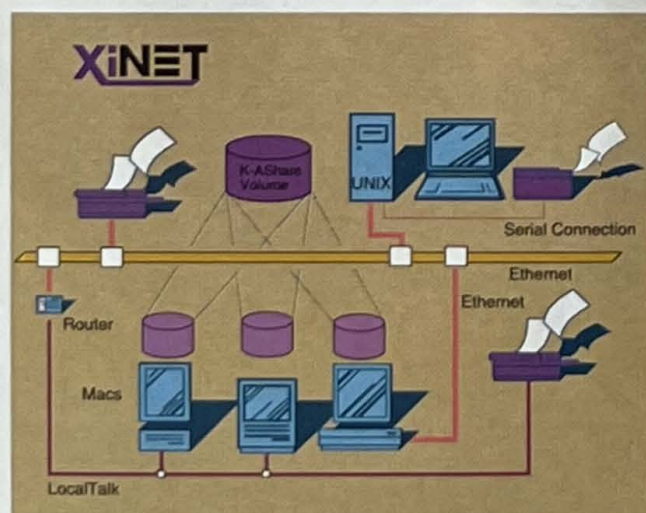
The company is joining a crowded field: RasterOps Corp., Sigma Designs Inc. and Radius Inc. have announced similar products.

The \$599 device, due in May, offers three display options. Users can see eight-bit color on SuperMac's \$1,199 SuperMatch 17 (see story, Page 5) and 20-inch monitors, on Apple's 12- and 13-inch displays, and on large-screen projectors compatible with the AppleColor 13-inch display.

LookingGlass also includes an NTSC (National Television System Committee) composite video output connector for use with nearly any projection system or television monitor. A PAL (a European video standard) port lets it work with European-standard monitors as well.

SuperMac Technology is at 485 Potrero Ave., Sunnyvale, Calif. 94086. Phone (408) 245-2202; fax (408) 735-7250. □

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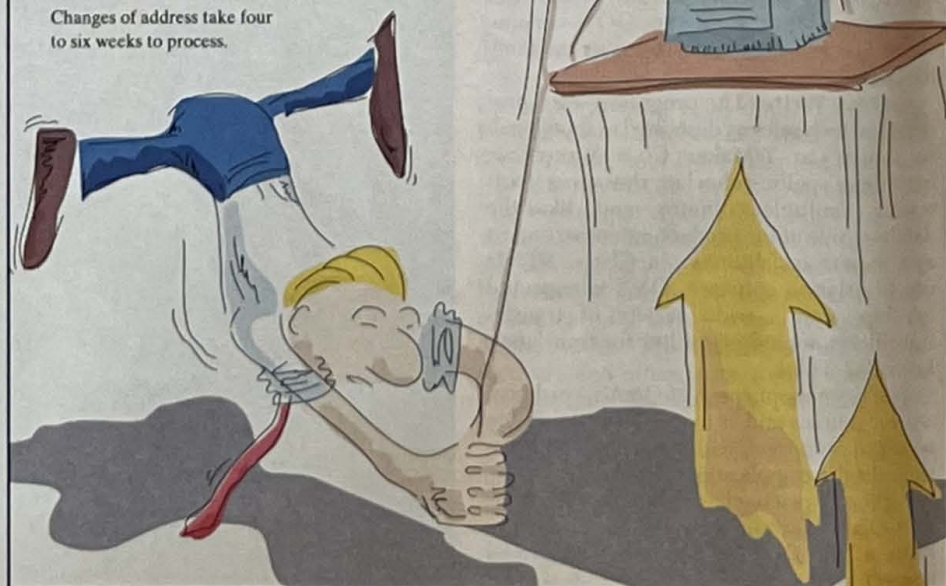
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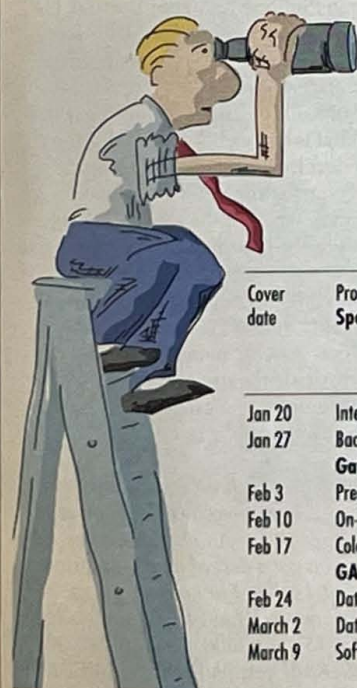
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Behind closed expo doors

There's really no point in beating around the bush: In this crowd, those many fall and winter events we categorize as religious and secular holidays are merely dress rehearsals nowadays for Macworld Expo. Aside from the lingering rumor about the

odd event at last week's company party, the January show of shows in San Francisco is just about all the Mac crowd really cares about, and judging from some of the things that are expected to show and be shown, that's a good thing.

As any blow-dried television commentator

will gladly tell you, a good thing is good news, a commodity that has been in short supply lately. If innovation will lead us out of the economic doldrums, then perhaps the best hope for recovery in a long time will be in evidence at the show, where there will be no shortage of new things to look at.

Few of the new products demonstrate the raw creativity of, say, a software giant such as Microsoft finally recognizing reality and beginning to offer site licenses to at least one or two of its largest sites. On the other hand, many will be more creative than Claris Corp.'s decision to change the license for its products from a per-station to a per-user basis. This last change is perhaps an indication that denial only works for so long.

Meet George Jetson. If it's true that many of us are merely milling around in a vain attempt to fashion a reality out of childhood fantasies, then next week's show will be the place to sample that reality. While a few may question the bottom-line usefulness of some of the new products, no one is likely to question their flash. Compression Labs Inc. and Picture-Tel Corp. are expected to be giving good demonstrations of live video teleconferencing goodies. While actual shipment of Compression Labs' product isn't expected to begin until early spring, being able to talk face to window with all your field sales reps on the Mac screen is an exciting prospect. It's a lot like that futuristic telephone company television ad, only without the big screen.

Notify!, the Ex Machina pager server first demonstrated by John Sculley and Roger Heinen at the last expo, also will be in evidence. This is the Apple events-driven product that can call your pocket pager. The Knife reports that the difference this go around will be the announcement of some major endorsements, including Motorola's. If Notify! catches on it will mean that pocket pagers will instantly be transformed from the premier status symbol of the successful young urban illicit drug dealer to the preferred status symbol of the well-connected Mac manager. Of course, an endorsement coming from an extremely large and powerful software firm won't hurt, either.

Down wit' OCE. In a move that is sure to give groupware a kick-start, Apple's Open Collaboration Environment (OCE) will be on hand, and the privileged will get private demonstrations of applications utilizing the OCE Toolbox. Although this is another instance where shipping products are many months out (six to 10 according to most sources), it will at least demonstrate the potential of collaborative computing to the all-important corporate manager.

Man with software akimbo. While neither the name Philippe Kahn nor Borland, his bad-boy software company, are exactly synonymous with Mac software, it is generally understood that Borland is in custody (even if only temporary) of Full Impact and FullWrite Professional. What is less well-known is that the company is developing a new Mac database product. Of course, this fact will probably be much better known after the round of off-site demonstrations the company is expected to give at a secret hotel suite during the show. This, too, is a product that is many months from becoming reality, but in the meantime we can all use whatever psychic means we have at our disposal to dissuade the use of the name Reflex II in favor of something more corporate — Paradox Mac, for example. □

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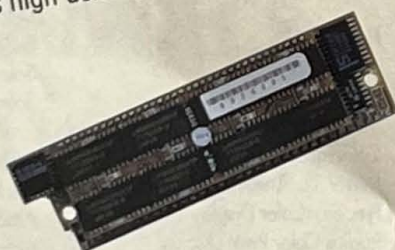
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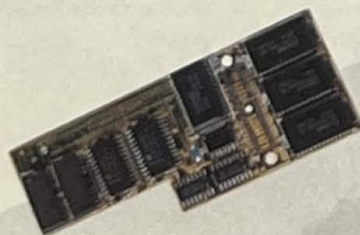
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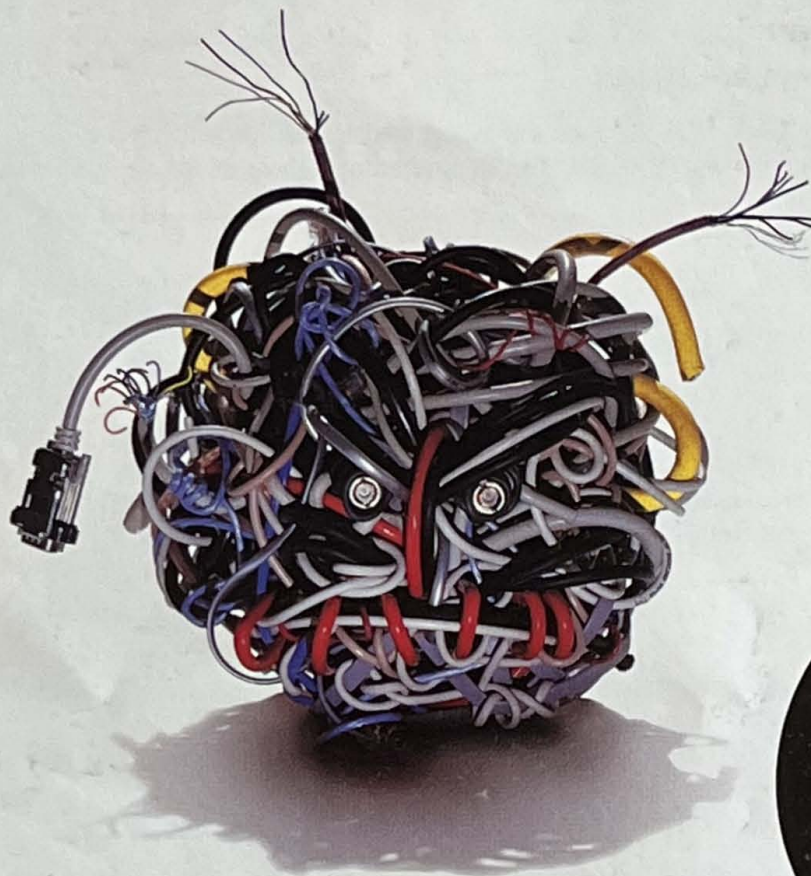


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